A STUDY TO INVESTIGATE THE RELATIONSHIP BETWEEN PARENTAL STRESS, SOCIAL SUPPORT AND LEVEL OF CHILD DIFFICULTY IN PARENTS OF CHILDREN ATTENDING AN ASSESSMENT UNIT.

Dawn Adams

D.Clin.Psychol.

University of Edinburgh

August 2005

DECLARATION

I declare that this thesis was written by me and that I conducted the work detailed herein. This work has not been submitted for, or accepted in, any previous degree.

Dawn Adams
2005

Acknowledgements

I would like to thank the following people for their assistance in the preparation of this thesis: Lynn Buntin, Leo Harding and Matthias Schwannauer.

I would also like to thank everyone in the Child and Family Mental Health Service, R.A.C.H, for their support, interest and helpful comments over the past year.

I am very grateful to the parents at the Raeden Assessment Centre for taking the time to participate in my study.

Finally, I would like to thank my friends, family and Norman for their never ending support.

ABSTRACT

Parental stress includes "subjective experiences of distress as emotional pain and anxiety" (Deater-Deckard, 2004). High levels of parental stress can have a cumulative effect over time and have a negative impact on family relationships (Quittner, Glueckay and Jackson, 1990).

Parents of children with intellectual disabilities report relatively high levels of distress, with a wide range of child, parent, family and service support factors implicated in parental distress (Hatton and Emerson, 2003). Severity of a child's difficulty is often linked with the level of parental stress (Keller and Honig, 2004).

The role of social support variables in protecting and maintaining physical and psychological health has been well established across a variety of studies (e.g. Koeske and Loeske, 1990). Generally it can be suggested that a lack of positive social relationships can lead to negative psychological states such as anxiety or depression.

It was the aim of this study to investigate any association between levels of parental stress, social support and levels of child difficulty in a group of parents whose children had previously undergone a multi-professional assessment of their difficulties. A further aim was to investigate whether level of reported depressive symptomology related to the level of parental stress.

Participants included forty-four parents whose children had been assessed six to twelve months previously. Parents completed questionnaires measuring parental stress, social support, level of child difficulty and a screening measure of depressive symptomology.

The results of this study indicate that there was evidence of associations between level of parental stress, reported social support and perceived level of child difficulty. The results also suggest that there was evidence of an association between parental stress and level of reported depressive symptomology.

The results of this study support the hypothesis that both social support and level of child difficulty are predicative of level of parental stress.

The limitations of this study and implications for future research are discussed.

Contents

Tables

Charts

Scattergrams

APPENDICES

Chapter 1: Introduction

The following passage is an example of a mother's insights into her deteriorating relationship with her children:

> "It hurts me and worries me to say it, but I have become less fond of Tom and Molly. I have been aware of this for a while, and have always presumed that this was perfectly normal – how could I feel the same about this quiet, occasionally surly boy as I did about his smiling, miraculous, two-year-old counterpart? But now I'm not so sure. Now I'm beginning to wonder whether he should not, in fact, be more lovable then he is, and whether the shortfall in lovability is due to something unattractive in him, or something unmaternal in me" (Nick Hornby, 2001, p.155)

The above passage encapsulates many of the important aspects which go together to make up parenting stress. Deater-Deckard (2004) describes parenting stress as including "subjective experiences of distress such as emotional pain and anxiety. It also includes parents' thoughts, beliefs, and attributions-expectations about what is "normal", perceived lack of control and violations of those expectations, and self-doubt." Both parents and children have contributory roles to this "enduring and emotionally powerful relationship" (Deater-Deckard, 2004).

Parenting demands are numerous and vary greatly; they require parents to adapt to each child's unique characteristics as well as fulfilling the social role of the parent. Basic demands include meeting a child's need to be fed, sheltered and protected, however there are also the psychological demands for attention, affection and helping the child to regulate their emotions. Another important factor of parenthood is the parent's perception of their child's behaviour, including attributions about why the child is behaving in a particular way. A parent's perception of his or her own competence as a parent is also an important feature of parenthood.

Further aspects of parenting to consider are the resources available to parents. These include a number of physical and mental factors such as sufficient housing, food and income, knowledge, feelings of competence and instrumental and emotional supports from others (Deater-Deckard and Scar, 1996). While differences in parenting stress can

arise due to differences in access to these resources, parenting stress also has as much to do with the subjective experience of child-rearing. For example one parent's "overactive, demanding" child may be another's "energetic, assertive" child.

1.1 Parental stress

High levels of parental stress can have a cumulative effect over time and have a negative impact on family relationships (Quittner, Glueckay and Jackson, 1990). It is therefore important to continue to study factors which can lead to an increase or a reduction in parental stress, in an attempt to provide guidance on managing the mediating factors of parental stress.

Family stress has been operationalized in a variety of ways, Hansen and Haline (1990) identified it as sometimes isolation, depression and relationship conflict. Increased parental stress has been related to child characteristics, such as moodiness, irritability and demandingness (Dyson and Fewell, 1986). In investigating parental stress it is important to look at both the aspects of the child which might contribute to stress in the parent, as well as aspects of the parents' functioning which may contribute to their own stress. Parental characteristics and family context factors may also influence the parent's ability to respond to their child effectively.

1.1.1 Risk Factors for Parental Stress

Risk factors for parental stress are variables which have been shown to be associated with elevated levels of child maltreatment. They are factors which are assumed to act in an adverse way to undermine parenting skills or abilities to cope with the demands of childcare (Ghate and Hazel, 2002; Holahan and Moos, 1987). Research has shown that child maltreatment and parenting difficulties are associated with a complex web of interrelated factors in which socio-structural and socio-cultural factors interact with and exacerbate an individual's psychological predisposition to poor parenting in a 'diathesis-stress' process (Wolfner and Gelles, 1993).

The risk factors associated with the breakdown of parenting occur at different levels. At the community level, risk factors exist in the form of impoverished environments characterised by high levels of social and environmental problems as well as a high concentration of poor families. At the family and household level, risk factors for stress can take the form of increased levels of poverty including social and material disadvantage. 'At risk families' can also be characterised by lone parenting, low income, unemployment and poor housing among other things. At the individual level, risk factors can be characterised by a diminished capacity to cope with stress in the task of parenting, plus a tendency to show extreme responses to stress. Studies have shown that factors such as parental social isolation and depression, child ill health, challenging behaviour and parental psychological immaturity among other factors, can potentially place a family's functioning under stress (see Ghate and Hazel, 2002 for a detailed description of risk factors).

1.1.2 Protective Factors for Parental Stress

In contrast to the identified risk factors, there are also protective factors such as resilience, which can help an individual maintain a healthy level of functioning in spite of a background of disadvantage, which is commonly associated with poor outcomes. Factors which are protective include receiving help from friends and family, having a close social network and having a temperamentally 'adaptable' child. Social support, for example, can act as a stress-buffering factor by providing help and support at moments of particular need and can also bolster parent's self-esteem and sense of efficacy, as well as generally enhancing healthy functioning (e.g. Cohen and Wills, 1985; Koeske and Koeske, 1990).

Holahan and Moos (1987) found that risk and resistance together predict over 40% of the variance in depression and almost 20% of the variance in physical symptoms, in concurrent measures. They also reported that parental dysfunction, especially maternal risk factors and family support, are significantly linked to distress in children. Among adults, it was found that the risk and resistance factors exerted a continuing influence on health over time, even when the stable component in distress was controlled for. However, only concurrent parental predictors were linked to children's health when the stable component in children's distress was controlled for.

1.2 Parental factors influencing stress

Although stress has been found to influence an individual's parenting of their child, the act of parenting in itself can serve as a source of stress for parents. Stress experienced as a parent can be the result of many factors including lack of informal or formal social support, diminished psychological resources (such as symptoms of mental distress), stressful life-events, and difficult parent-child interactions, all of which may contribute to higher levels of parenting stress (LeCuyer-Maus, 2003).

In a pilot study, LeCuyer-Maus (2003) indicated that along with maternal difficult life circumstances, parenting stress and maternal education, the additional factors of maternal psychiatric mental/health symptoms and maternal experiences in their families of origin, may prove useful in identifying characteristics that influence parenting and interventions in high-risk mothers with small children. Although these findings did not identify the mechanisms of how family-of-origin experiences and concurrent psychiatric mental health symptoms affect maternal behaviour in relation to children, the stress and coping perspective suggests that this may occur by influencing maternal appraisal and coping processes, as these mothers with small children seek to address the challenges in their lives. Le Cuyer-Maus (2003) also found that level of education appears to have been a factor in these mothers' ability to function in spite of economic adversity.

In concordance with Le Cuyer-Maus (2003), Ghate and Hazel (2002) suggested that some parents are predisposed to have difficulties in meeting the challenge of parenting by virtue of their personal characteristics and circumstances. They also suggest that some children are more difficult and less rewarding to parents than others, with each of these factors influencing each other in a bi-directional process. Parents with poor mental or emotional health can be at an elevated risk of experiencing a range of problems with childcare. Some research suggests that personality traits predispose individuals to perceive stressful events in predictable ways (Scott, Bernard and Vaughn, 2002; Hemenover, S.H., 2001).

Webster-Stratton (1990) conducted a review of research on relationships between extrafamilial stressors, interpersonal stressors, child stressors, parents' perceptions and

family interactions in families with conduct-problem children. The organization of the review was guided by the conceptual model of stress which assumes that stressors due either to extrafamilial factors, interpersonal factors, or child factors confront parents with a situation that requires coping skills. Whether these stressors will seriously disrupt the parents' functioning and their interactions with their children depends on the individual parent's psychological well being and personal resources, such as social and family support. Accordingly, the way a parent appraises the stressful situation will determine the degree to which the stress disrupts his or her parenting practices and consequently will determine the degree of risk that the child will develop conduct problems (Webster-Stratton, 1990). The impact of stress on children is mediated by the quality and sensitivity of the parents' interactions with their children (Patterson, 1983 and Webster-Stratton, 1990).

Webster-Stratton's (1990) review also focussed on research investigating the stressful factors that disrupt parental functioning and thereby indirectly affect children's adjustment, setting in motion a cycle of coercive parent-child interactions and further stress. In general it was found that parents of lower socio-economic class were less likely to use reason, to show support, and to allow independence in their children. However, they were more likely to use negative controlling behaviours and spanking with their children, than were middle-class families (Gecas, 1979). Webster-Stratton (1990) further concluded from the research reviewed that there was some evidence showing that mothers who either did not want to work or who found their employment stressful, had significantly more problems in childrearing than mothers who desired employment and felt satisfied with their job. Also, fathers who sustained heavy financial losses were likely to be less nurturant and more irritable and punitive in their interactions with their children than were fathers who did not undergo such losses. In turn, these fathering behaviours were predictive of tantrums and negativism in children.

Families with conduct-problem children report higher rates of major stressful life events, with the amount of negative life stress for clinic families being twice as high as for nonclinic families (Webster-Stratton, 1990). The amount of negative stress has also significantly discriminated abusive families from nonabusive families (Whipple and Webster-Stratton, 1989). Webster-Stratton (1990) reported that within families with conduct-problem children, significant correlations have been found between high

negative life stress and negative maternal perceptions of child adjustment. For example, mothers experiencing high negative life stress may perceive their children's behaviour as more deviant than low-stress mothers, whether or not the child's behaviour is actually more deviant.

1.2.1 Divorce and Separation

Divorce and separation are also a major stressor affecting parenting attitudes and family interactions. Post-separation parents have been found to interact with their children with less affection and involvement, and with greater punitiveness and irritability (e.g. Wallerstien and Kelly, 1980). Webster-Stratton (1990) concluded that recently separated mothers experienced significantly more minor hassles and significantly increased major life events than mothers in two-parent families. Marital relations are a primary stress factor undermining or supporting parent functioning. Strauss (1980) found that parents who reported lower marital satisfaction had an 87% higher rate of child abuse. Marital conflict has also been associated with inconsistent parenting and the use of increased punitiveness, decreased reasoning, and fewer rewards with children (Stoneman, Brody and Burke, 1989).

Perceptions of child behaviour can also be influenced by martial discord, among other factors. Morgan, Robinson and Aldridge (2002) suggested the likelihood that as levels of parenting stress increase, perceptions of current child behaviour diminish in accuracy and parents are more likely to be influenced by their long-term beliefs about the behaviour of the child. Furthermore, parents experiencing high levels of parenting stress, for example post separation, may be more likely to focus on negative aspects of the child's behaviour and attribute that behaviour to the child rather than to the situation.

1.2.2 Maternal Depression

Osyerman, Mowbray, Meares and Firmunger (2000) hypothesised that the detrimental effects of maternal depression emerge by the time an infant is one-year-old and that a diagnosis of depression may be useful in making predictions about some apects of parenting behaviour and about mothers' parenting styles.

Webster-Stratton and Hammond (1988) conducted a study to examine the relationship of reported maternal depression to prior and current life stressors, and to maternal perceptions of child adjustment, parenting behaviours, and child conduct problems. Depressed mothers, non-depressed mothers and their clinic-referred children participated in the study. It was found that the depressed mothers perceived their children as being significantly more behaviourally disturbed than either the non-depressed mothers or their husbands on the Child Behaviour Checklist (Auchenbach and Edelbrock, 1983). Home observations indicated no differences between the depressed and nondepressed mothers' behaviour except for a strong trend for depressed mothers to exhibit more critical statements and to report more daily spankings. Webster-Stratton and Hammond reported that these results support Pattersons's (1982) description of mothers' "nattering", which he hypothesised is the most salient element in the coercive process that characterises families of conduct-disordered children. Hall and Farel (1988) reported that maternal everyday stressors were more strongly associated with child behaviour problems than were life events. Webster-Stratton and Hammond (1988) found that children's interactions with depressed mothers were not observed to be more deviant or noncompliant than the children's interactions with nondepressed mothers. Independent teacher reports were also completed as part of the study and suggested that the children of depressed mothers were actually significantly less deviant than children of nondepressed mothers.

Both the depressed and nondepressed mothers in Webster-Stratton's (1988) sample reported extremely high levels of stress due to their children's difficult temperament. Such scores were significantly higher for mothers than for fathers across both groups. However the depressed mothers also reported significantly more stress than the nondepressed mothers and their spouses on the parent domain of the Parental Stress Index (PSI) (Abidin, 1995). The parent domain incorporates feelings of social isolation, self-blame, role restriction, incompetence, and lack of attachment to child. The results of this study also indicated that the depressed mothers reported twice as many negative life events in the previous year (as measured by the Negative Life Events Scores) (LES) than nondepressed mothers and these included unemployment, financial problems, or death in the family.

Depressed mothers were more likely to have reported having been abused by their spouses and former partners than nondepressed mothers were. As described by Patterson (1982), these women have had a "coercive cycle of interaction" with their own parents. Webster-Stratton and Hammond (1988) reasoned that perhaps these aversive childhood experiences set them up to choose partners who perpetuate the negative cycle with spouse abuse. Then, as parents, these depressed individuals develop more negative attitudes about their own parenting ability, about their children's behaviour, and perhaps about life events in general. Webster-Stratton (1990) suggests that although they failed to find a relationship between maternal depression and child conduct problems, it is important to be cautious because these clinic-referred children are already exhibiting a high rate of deviant behaviours at a very young age. It therefore may be too early to see the long-term effects of chronic depression, negative attitudes, critical behaviours, and physical punishment. It could be hypothesised that if these parents continue to have nonreinforcing experiences with their children, their depression may worsen, their criticism may increase, and their children may develop more serious behaviour problems. Further longitudinal research could be carried out to determine the role that ongoing maternal depression plays in these children's social and emotional development.

Webster-Stratton and Hammond (1988) utilised a low cutoff score for defining maternal depression, indicating that these mothers were not severely depressed. It is therefore unknown whether these findings would generalise to more severely depressed mothers. However, the sample is representative of the majority of mothers who refer their children to clinics for treatment of conduct problem behaviour (Webster-Stratton and Hammond, 1988).

Smith (2004) hypothesised that one of the main mechanisms by which parents' mental health impacts negatively on their children is through disruptions to parenting (see also Fudge, Falkov, Kowalenko and Philip, 2004), and that the impacts of such disruptions on children are profound and persistent. Although this is not the only mechanism by which parental mental health affects children, it offers some potential for intervention to reduce or minimise the disruptions to parenting that result from mental health problems in one or both parents. Both supporting parenting and supporting families to parent are therefore of crucial importance for all families.

Contrary to the above findings Bristol, Gallagher and Schopler (1988) reported that although a third of mothers with children with a disability were at risk for depression, neither the mean scores nor the percentages of risk for depression in parents, significantly differentiated between families with or without a disabled child. However other studies have reported results indicating that mothers of children with disabilities are at a markedly increased risk of suffering from psychological distress and depression (Olson and Hwang, 2001), with single mothers of children with disabilities being found to be more vulnerable to severe depression, than mothers living with a partner.

1.3 Child factors influencing stress

In the child, long-term health problems and disabilities can be associated with parenting difficulties, as can temperament and behavioural characteristics such as irritability, fussiness, hyperactivity and other challenging behaviours. Ghate and Hazel (2002) conducted qualitative interviews with parents who reported that coping with a sick child increased the stress associated with parenting because of the additional effort required. For example, they found that the ill health of the child often kept the parents up at night, which meant that additional tiredness made daytime tasks more difficult. Parents also felt that having a sick child made the balancing of work and home commitments more difficult generally. Ghate and Hazel (2002) utilised the Malaise Inventory in their study, which is a measure of tendency toward depression. They found that parents with a sick or disabled child at home had a significantly increased mean Malaise score than the other parents in their sample, suggesting that these parents were at greater risk of developing depression. As previously discussed, parental depression in itself may increase parental stress, resulting in a negative vicious circle.

1.3.1 Child behaviour

Ghate and Hazel (2002) also investigated parental perceptions by assessing the extent to which parents experienced a sense of stress or challenge in their daily parenting role (see also Malka, 1991). The Strengths and Difficulties Questionnaire was used to measure the extent to which children in the sample presented a particular challenge to parents in terms of their emotional or behavioural characteristics. They found that 15% of the parents in their sample rated their child as meeting the criteria for the 'difficult child' range. Further examination allowed them to conclude that this was more likely for the younger children with long-standing physical health problems, children of lone parents and children coming from families with a lower income. Ghate and Hazel (2002) also concluded that risk factors such as the age of child, having health problems or not, income and parents score on the Malaise Inventory were most strongly associated with having a 'difficult child' in this sample. These risk factors remained significant, however when income was controlled for, lone parenting ceased to be a significant risk factor suggesting that poverty was most closely associated with having a behaviourally challenging child.

Baker, Blacher, Crnic and Edelbrock (2002) examined the extent of behaviour problems in 3-year-old children with and without developmental delays and the relative impact on their parents of these delays. They investigated whether children with and without developmental delays already showed a differential extent of problem behaviours by age 3. Baker et al (2002) utilised the Child Behaviour Checklist (Auchenbach, 1991) and found that parents of children with developmental delays reported higher total scores on this measure than did parents of children without developmental delays. They found that children with developmental delays were 3 to 4 times more likely to have a total score within the clinical range. They also found that children with developmental delays were most different from their peers without developmental delays showing higher levels of social withdrawal and attention problems. Baker et al (2002) hypothesised that as children with developmental delays grow older, their social domain may take on added importance as a moderator of other types of problems. For example, children with poor social interaction skills may be particularly at risk for problems with anxiety, depression, or aggression because social demands become more complex as children with developmental delays become more aware of their differences and as peers become more rejecting.

Kopp, Baker and Brown (1992) found that 3-year-old children without developmental delays were already demonstrating a higher rate of rejecting responses than their playmates with developmental delays. Lang, Baker and Henker (2001) found that among non-aggressive pre-schoolers, poor social skills predicted those children who subsequently became aggressive by third grade. Baker et al (2002) anticipated that for children with developmental delays, there may be a tendency for behaviour problems, especially externalising ones, to increase over time with increasing cognitive and social demands, resulting in an even greater differentiation between the two groups of children.

Baker et al (2002) also investigated whether parents of 3-year-olds with developmental delays experienced heightened stress relative to parents of children without developmental delays and if so, whether this stress was primarily related to the children's cognitive delay or behavioural challenges. Both mothers and fathers of children with developmental delays reported a greater negative impact of the child on

the family as well as a greater negative impact on the family finances. They found that positive impact did not differ by delay status indicating that parents of children with developmental delays expressed positive feelings similar to those of parents with non-delayed children, while at the same time acknowledging more negative ones. Baker et al (2002) utilised the Family Impact Questionnaire (Donenberg and Baker, 1993) in order to ask parents directly about their child's impact on the family, relative to the impact they perceived their other children having on their families. This allowed them to avoid the problem of other studies which have used items that tap the child's limitations which are then used in summary scores purporting to measure the parent's stress. Despite this Baker et al (2002) still found an association between delay and parental stress. They also found that the presence of stress was related much more strongly to the presence of behaviour problems than to intellectual delay. They were reasonably confident that the relationship between child problems and parental stress is not spurious. For example, this relationship was not based on stressed parents misrepresenting their child's difficulties, because similar results were found to be reported by staff members who also completed a measure relating to the child's behaviour. Baker et al (2002) did not rule out the hypothesis that stressed parents could create greater problems in their children, although they reported that this was unlikely to explain the whole relationship.

Baker, McIntyre, Blacher, Edelbrock and Low (2003) conducted a further study looking at children with and without developmental delay. Specifically they focussed on behaviour problems and parenting stress over time. They found that children with developmental delays scored higher on behavioural problems than their non-delayed peers as rated by both mothers and fathers (as found in Baker et al, 2002). Based on total Child Behaviour Checklist (Auchenbach, 1991) scores they found that about three times as many children with developmental delays scored in the clinical range at each assessment as compared to children without these delays. Over time problems for the delayed group increased significantly and for the non-delayed group these difficulties decreased. They found that the difference between the groups related mostly to attentional problems and social withdrawal and also that the groups did not differ greatly on emotional reactivity, anxiety, depression or sleep problems.

Baker et al (2003) found that generally there was moderate agreement between mothers and fathers in the assessment of their child's behaviour. However in the parents of the developmentally delayed children they found that there was higher parental agreement about behaviour problems. This unusual finding may be partly due to the fact that more frequent discussions about the child's difficulties will have taken place both between the mother and father of the child and between the parents and professionals involved with the child than in families where children do not have a developmental delay and therefore are unlikely to have accessed services. Also within Baker et al's (2003) sample, fathers of children within the delayed group shared childcare responsibilities with the mothers more than those in the non-delayed group. This could suggest that fathers with children in the delayed group may be more aware of their child's difficulties than the fathers of the non-delayed group.

In order to measure family functioning over time, parents were asked to report the positive and negative impact of the target child on the family. Baker et al (2003) found no difference in the appraisal of positive impact, however negative impact or stress scores were considerably higher for parents of children in the developmentally delayed group. This supports the findings of Baker et al (2002) and was also supported by Hauser-Cram, Warfield, Shonkoff and Kraus (2001) who followed families of children with developmental delays from infancy to ten years of age. They found that parental stress increased to the point that, by the time the children were aged ten, four times as many parents were reporting stress within the clinical range as compared to parents of a non-disabled sample. Baker et al (2003) found that changes in child behaviour problems over a one-year period were associated with increased parental stress. They also found however that parenting stress at thirty-six months and the changes in parenting stress over a one-year period were also associated with an increase in child behaviour problems. This is therefore consistent with the notion that maladaptive child behaviour and parenting stress have a mutually escalating affect on one another. The assumption here is that the parenting environment interacts with the characteristics of the child and also that the child's behaviour can have a critical impact on the parenting environment. Over time this effect may be greater for some individuals than for others, depending upon the protective factors that are present (e.g. parental mental health, social support).

1.3.2 Intellectual Disabilities

Parents of children with intellectual disabilities report relatively high levels of distress, with a wide range of child, parent, family and service support factors implicated in parental distress (Hatton and Emerson, 2003). This is echoed by Hastings and Beck (2004) who report that parents of children with intellectual disabilities are at increased risk of stress and other mental health problems. When a child is born with a handicap or serious developmental disorder, or develops a problem, parents are expected to cope. When parents do not handle situations well or when the behaviour of the child is out of control, parents are seen as having done a poor job or as having failed (Abidin, 1990). Life and parenting stresses, however, do not inevitably lead to dysfunctional parenting.

Beckman (1983) concluded that there is a significant relationship between specific characteristics of handicapped infants and the amount of stress reported by parents. Beckman's (1983) study indicated that mothers who reported more parent and family problems, had infants who had a greater number of or unusual care giving demands, were less socially responsive, had more difficult temperaments, and displayed more repetitive behaviour patterns. It was found that the total number of extra caregiving demands was significantly associated with all other child characteristics. Single mothers reported more stress than mothers in two-parent families did. This is consistent with the finding that the total number of caregiving demands is associated with higher levels of stress. Single parents are likely to have less help with caregiving activities, since relief in the form of another parent is unavailable.

Beckman (1983) felt that it would be important to recognise the role played by the child in the stress experienced by all families. Even very young infants may have a profound influence on the adults in their environment. Understanding which characteristics of children contribute most significantly to problems experienced by the family may be extremely valuable to professionals interested in helping families solve these problems. For example, the variable most highly related to stress in Beckman's (1983) study was the number of additional caregiving demands made by the child. Therefore one way to reduce stress might be to increase the available respite care alternatives offered to the family. Similarly, providing training in special caregiving techniques might be another possibility for reducing stress.

Dyson (1997) reported that the perceived parental stress in the families of school children with disabilities pertained specifically to parental and family problems due to the child's special characteristics (see also Hanson and Hanline, 1990) and physical limitations and to the parents' pessimism concerning the child's future. Dyson (1997) also concluded that parental stress associated with a child's disabilities was influenced by family psychological resources. He found that fathers who evaluated their families as emphasising individual members' personal growth and as having organised routines experienced less stress. Also, when mothers in these households perceived greater family emphasis on personal growth and a well-organised family system, they were less stressed. In addition, in families where fathers reported more social support and a positive family emphasis on personal growth, the mothers indicated lower stress levels (Dyson, 1997).

Severity of a child's disability is often linked with the level of parental stress (Keller and Honig, 2004). Current literature indicates that having a child with a disability is associated with elevated scores on measures of parental stress (Esdaile and Greenwood, 2003). Both mothers and fathers of children with disabilities experience higher levels of child-related parenting stress when compared to parents of children who have no disability. Important child factors such as severity of disability and behaviour are important to consider, as are the parents' perceptions of such difficulties.

Mothers' positive perceptions have been found to relate to coping strategies and specifically, positive reframing coping strategies (Hastings, Allen, McDermott and Still, 2002; Hastings and Taunt, 2002; Beresford, 1993). Esdaile and Greenwood, (2004) found that the parents in their sample recognised the extra effort children with disabilities need to make to achieve the same goals as children who do not have disabilities. They hypothesised that this could be why parents in their sample attributed higher credit to children with disabilities for positive parent-child interaction outcomes. Parenting a young child is challenging even when the child has no identifiable disability. Keller and Honig (2004) found within their sample of parents of children with disabilities, that scores on the child domain subscale of the Parental Stress Index (Abidin, 1990a) were above the 85th percentile, which is above the normal range. High

scores are usually associated with families of children with behavioural characteristics that make parenting difficult.

A strong relationship has been found between skills deficits and severity of behaviour problems, with this relationship varying according to the type of behaviour problem (Chadwick, Piroth, Walker, Bernard and Taylor, 2000). Chadwick et al (2000) reported that within their sample sleeping difficulties, overactivity, self-injury, destructive behaviour and autistic features, such as social withdrawal and stereotypies were strongly and progressively associated with the severity of the child's skills deficit. However, problems such as physical aggression and temper tantrums did not appear to be associated with the severity of skills deficit in the child.

Hastings and Beck (2004) conducted a selective review of interventions designed to reduce stress in parents of children with intellectual disabilities, with a focus on group interventions that incorporated various cognitive behavioural techniques. They reported that the research evidence reviewed suggested that standard models (e.g. respite care, case management) probably helped to reduce parental stress. They suggest that the strongest evidence was for cognitive behavioural group interventions, especially for the reduction in mother's stress. Hastings and Beck (2004) also indicate that the evidence suggests potential value of parent-led support networks.

1.3.3 Fathers involvement

Dyson (1997) conducted a study investigating fathers' and mothers' experiences with parental stress, family functioning, and social support during the school years of their children with disabilities. It was found that fathers of school-age children with disabilities experienced as much stress related to their children with disabilities, as did mothers (see also Deater-Deckard and Scarr, 1996). Although no group differences were found between parents of children with disabilities and parents of children without disabilities, in terms of social support, parents of children with disabilities reported significantly greater amounts of parental stress than did parents of children without disabilities.

In contrast to mothers, it has been found that fathers who reported lower stress in the parent domain when their child was an infant, also reported an increased frequency of behaviour problems at 7 years (Benzies, Harrison and Magill-Evans, 2004). It is possible that parents who are not engaged in monitoring their child do not experience high levels of parenting stress. Fathers may experience less parenting stress during the child's first year, because mothers are usually the primary caregivers and have greater responsibilities for the child.

Ricci and Hodapp (2003) conducted a study looking specifically at fathers of children with Down's syndrome compared with fathers of children with other intellectual disabilities. They were interested in father's perceptions of their child's disability as well as their level of stress and involvement with their child. In this study both mothers and fathers completed questionnaires about their children's personalities and maladaptive behaviours. They also completed measures of their own parenting stress and the level of the father's involvement was measured.

It was found that both mothers and fathers of children with Down's Syndrome rated their children as having more positive personality traits and fewer maladaptive behaviours as compared to children with other intellectual disabilities (Ricci and Hodapp, 2003). It was also apparent from this study that fathers experience less stress in parenting children with Down's Syndrome, both in terms of overall child-related stress, as well as lower stress related to their children's acceptability (see also Friedrich, Wilturner, and Cohen, 1985), adaptability and demandingness. Although the fathers of the Down's Syndrome children felt differently from the comparison group, Ricci and Hodapp (2003) reported that the two groups were very similar in terms of their everyday paternal role.

Fathers who described their children with Down's Syndrome in more positive terms experienced lower levels of overall child-related, reinforcement and demandingness stress. Salovita, Italinna and Leinonen (2003) found that the single most important predictor of parental stress was the parents' negative definition of the situation. Particularly, in mothers, the negative definition was associated with the behavioural problems of the child while in fathers it was connected with the experience of the social acceptance of the child with disabilities.

1.3.4 Expressed emotion

Expressed emotion is the measure of the emotional relationship between a parent and their child. High expressed emotion is associated with parenting difficulties, which can be reflected in family functioning and the home environment (Beck, Daly, Hastings and Stevenson, 2004). Beck, Daly, Hastings and Stevenson (2004) conducted a study to investigate mother's expressed emotion towards both children with and without an intellectual disability. The participants were mothers of children with an intellectual disability who also had at least one other child without a disability. These mothers completed self-assessment measures addressing their sense of competence as a parent, their beliefs about child-rearing practices and their reports of behavioural and emotional problems of their child with intellectual disability. Telephone interviews were conducted in order to assess the mothers expressed emotion toward their child with intellectual disabilities as well as their child without disabilities. The child's adaptive behaviour was also assessed during this interview.

The results of Beck et al's (2004) study indicated that mothers of children with an intellectual disability had lower rates of high expressed emotion than in other reports of clinical child samples using similar methodology. It was also indicated that maternal feelings about parenting and more severe child behaviour problems were associated with high expressed emotion and that maternal expressed emotion toward their child with an intellectual disability was more negative than expressed emotion towards their other children who do not have an intellectual disability. Beck et al (2004) reported that comparisons with control samples from previous research and the use of a within family design in their own study supported their finding that maternal expressed emotion toward the child with intellectual disabilities was more negative as compared to expressed emotion toward their siblings without intellectual disabilities.

The fact that this sample of mothers had high expressed emotion in a proportion between that typically found in clinical and control samples may be explained due to a bias in Beck et al's (2004) sample which contained eighteen children with Down's Syndrome. Research looking at parenting stress in mothers of children with Down Syndrome generally indicates that these mothers are more stressed than mothers of children from the general population, but are less stressed than mothers of children with

other intellectual disabilities (Hastings, Thomas and Delwicke, 2002). Research studies with other clinical samples have generally found strong associations between expressed emotion and parental stress (Baker, Heller and Henker, 2000). Further research is needed however to investigate whether stress drives parental expressed emotion or whether expressed emotion is a determinant of stress. If the latter is true it may help to explain elevated stress in parents of children with intellectual disabilities, in that expressed emotion may mediate the effects of childhood disability on parental stress.

The clearest finding of Beck et al's (2000) study was the association between behaviour problems and maternal expressed emotion. This finding is consistent with the view that behaviour problems may be one of the key factors driving parental stress (Hastings, 2002). Beck et al's (2000) study was however the first to apply the Five Minute Speech Sample to parents of children with an intellectual disability and although reliability and validity data have been presented, they have been tested on relatively small samples and would therefore require further replication.

Lam, Gillies and Lavander (2003) agreed that expressed emotion was associated with high levels of stress in carers. They reported that behavioural problems in the child did not automatically lead to stress in carers, however the carers' beliefs and their behaviour could affect how they appraised and therefore coped with their children's behaviour (see also Bugental, Blue and Cruzcosa, 1989; Harrison and Sofronoff, 2002; Hatton and Emerson, 2003). Within this study high expressed emotion carers appraised more of their child's behaviour as a definite problem. High warmth was found to be related to more positive reappraisal and less escape-avoidance coping. Lam et al (2003) concluded that it is important to consider optimal use of respite care and psychosocial intervention to encourage positive appraisal and problem solving. Individuals experiencing higher levels of stress are more likely to report more reactive processes and in turn to use more harsh discipline procedures (Pinderhughes, Dodge, Bates, Petit and Zelli, 2000).

1.3.5 Adaptation to Children with Disabilities

Bailey, Blasco and Simeonsson (1992) conducted a study designed to extend the research on parental adaptation to children with disabilities by a comparative analysis of

the needs for services expressed by mothers and fathers. They asked (1) is the structure of expressed needs similar for mothers and fathers? (2) Do mothers express more needs than fathers? and (3) Do child or family characteristics differentially influence mothers' and fathers' ratings of needs? Four data sets were combined to allow this analysis to take place, resulting in a sample that is diverse in terms of caregiver status, geographical location, socio-economic status, race, child age and disability. However the number of subjects available for specific analysis was limited as completed demographic information was not available for all subjects. Subjects were drawn from three southern American states mainly, which meant that there is some uncertainty as to whether the findings are generalisable to a national sample. However Bailey et al (1992) felt that due to their sample's large size and its heterogeneous nature it provides a substantive basis for further understanding of family needs.

Bailey et al (1992) utilised The Family Needs Survey (Bailey and Simeonsson, 1988) which is an instrument used to document family needs for the purpose of program planning in early intervention. Each item consists of statements about specific needs (e.g. "I need more information about my child's condition or disability"). Parents and caregivers are asked to respond in one of three ways: 1 = I definitely do not need help with this, 2 = not sure, and 3 = I definitely need help with this. In developing the survey the authors grouped the items into six subscales: Needs for Information, Needs for Support, Explaining to Others, Community Services, Financial Needs, and Family Functioning.

It was found that the factor structure for fathers' needs differed significantly from that for mothers. The eight social support items for fathers divided into two factors rather than the one found for mothers, suggesting that mothers may have a broad-based view of expectations for support from a variety of sources and do not tend to separate personal concerns from family concerns. Fathers on the other hand, may be more likely to differentiate individual concerns. Mothers expressed significantly more need than did fathers, although the actual differences were not large. The differences were primarily in Family and Social Support, Explaining to Others and Child Care. With respect to explaining to others, mothers were especially more likely to indicate a need for help in explaining their child's condition to other adults or children. Bailey et al (1992) felt that these findings may reflect differing levels of child care responsibilities

for mothers and fathers, although they were unaware of the actual allocation of roles within their sample. Mothers were more interested than fathers in opportunities to meet and interact with other parents of children with disabilities through community services.

A further finding of this study was that race, socio-economic status, birth order, and disability type accounted for a relatively small amount of the variance in needs. This could suggest that the expression of family needs cannot be predicted on the basis of broad child or family categories but, rather, is unique to individual families. Generalisations about a family's needs based on demographic variables may thus be of limited value. Bailey et al (1992) concluded that their findings reinforced the importance of ascertaining the particular needs of each family as well as those of key family members. It was also suggested that complemented by gathering information in other areas and with other procedures, such assessments as The Family Needs Survey can enhance the individualisation of early intervention services for families.

1.4 Social support and Parental Stress

The role of social support variables in protecting and maintaining physical and psychological health has been well established across a variety of studies (e.g. Koeske and Koeske, 1990; Dunst, Trivette and Cross, 1986; Cohen and Wills, 1985; Quittner, Glueckauf &Jackson, 1990; Ghate and Hazel, 2002; Coyne and DeLongis, 1986, Belsky, 1984). There are a number of hypotheses as to how social support is related to mental health outcomes and to serious physical illness outcomes. Generally however, it can be posited that a lack of positive social relationships can lead to negative psychological states such as anxiety or depression. In turn, these psychological states may ultimately influence physical health either through a direct effect on physiological processes that influence susceptibility to disease or through behavioural patterns that increase risk for disease and mortality.

1.4.1 The Main Effects Model of Social Support

The direct or main effects model of social support suggests that social support exerts beneficial effects on psychological well being regardless of the individual's level of stress (Kessler and Essex, 1982; Cohen and Wills, 1985). Therefore, generally, social resources may lessen the likelihood of symptom development. Large social networks provide individuals with regular positive experiences and a set of stable, socially rewarded roles in the community (Cohen and Wills, 1985). This kind of support could be related to overall well being because it provides positive affect, a sense of predictability and stability in one's life situation, and a recognition of self-worth (Cohen and Wills, 1985). Integration in a social network may also help an individual to avoid negative experiences such as economic or legal problems, which may otherwise increase the probability of psychological or physical disorder. This kind of social support could be related to physical health outcomes through emotionally induced effects on neuroendocrine or immune system functioning (Cohen and Wills, 1985) or through influencing health related behavioural patterns such as cigarette smoking, alcohol use, or medical help seeking (Krantz, Grunberg, and Baum, 1985). The ways people cope with stressful events make a difference to how they feel emotionally (Folkman and Lazarus, 1988).

1.4.2 The Buffering Model of Social Support

The buffer model predicts an interaction between levels of stress and social support (Quittner, Glueckauf &Jackson, 1990). Individuals reporting high levels of stress who also have well-developed, satisfying social relationships will be protected to a greater extent from the negative impact of stress. Several mechanisms for these buffering effects have been proposed, including altered appraisals of the stressor and inhibition of maladaptive coping resources (Lazarus and Folkman, 1984). It may be that, although the individual perceives that it is important to respond, an appropriate coping response is not immediately available to them. Cohen and Wills (1985) noted that their definition of stress closely links appraised stress with feelings of helplessness and the possible loss of self-esteem. Feelings of helplessness arise because of the perceived inability to cope with situations that demand an effective response. Loss of esteem may occur to the extent that the failure to cope adequately is attributed to one's own ability or stable personality traits, as opposed to some external cause.

Cohen and Wills (1985) proposed that social support might act as a stress-buffering mechanism of social support at two different points in the causal chain linking stress to illness. First they suggested that support might intervene between the stressful event and a stress reaction by attenuating or preventing a stress appraisal response. So therefore, "the perception that others can and will provide necessary resources may redefine the potential for harm posed by a situation and/or bolster one's perceived ability to cope with imposed demands, and hence prevent a particular situation from being appraised as highly stressful" (Cohen and Wills, 1985, p.312). Secondly it was suggested that adequate support might intervene between the experience of stress and the onset of the pathological outcome by reducing or eliminating the stress reaction or by directly influencing physiological processes. Therefore "support may alleviate the impact of stress appraisal by providing a solution to the problem, by reducing the perceived importance of the problem, by tranquilizing the neuroendocrine system so that people are less reactive to perceived stress, or by facilitating healthful behaviors", (Cohen and Wills, 1985, p.312).

There are a number of social resources that act as stress buffers; this includes emotional support, informational support, social companionship and instrumental support.

Through emotional support an individuals self-esteem can be enhanced by communicating to them that they are valued for their own worth and experiences and are accepted despite any difficulties or personal faults. Informational support can come in the form of help in defining, understanding, and coping with problematic events. Social companionship can take the form of spending time with others including taking part in leisure and recreational activities. These can reduce stress by fulfilling a need for affiliation and contact with others, they can help to distract an individual from worrying about problems, or can facilitate positive affective moods. Instrumental support includes the provision of financial aid, material resources and needed services. Stress can be reduced here through direct resolution of instrumental problems or through the provision of increased time for activities such as relaxation or entertainment for the recipient.

If appraising an event as stressful can result in feelings of helplessness and threat to self-esteem (Cohen and Wills, 1985) then added esteem support may counterbalance threats to self-esteem that commonly occur as a response to stress appraisal. A perceived lack of control could be countered by informational support, which helps one reappraise a stressor as benign or suggests appropriate coping responses. Hence, esteem and informational support are likely to be responsive to a wide range of stressful events. "Instrumental support and social companionship functions are assumed to be effective when the resources they provide are closely linked to the specific need elicited by a stressful event" (Cohen and Wills, 1985, p.314). For example, if stress were created by a loss of companionship, then it would be best reduced by social companionship. "It is reasonable to assume that specific events elicit particular salient coping requirements" (Cohen and Wills, 1985, p.314). In order for buffering to occur Cohen and Wills (1985) would posit that there must be a reasonable match between the coping requirements and the available support. Cohen and Wills (1985) concluded from this that support measures that provide a reliable index of these functions should show buffering effects. Global functional measures that tap a general availability or resources, without assessing specific resources, would result in main effects without buffering interactions.

In a study measuring stress at time 1 then six months later Power (1988) found that measures of emotional and practical support were significant predictors of depression and total symptom scores measured six months later. This study also indicated that

some of the variance was accounted for by negative life events that occurred in the intervening period between the two assessment points. Significant stress-buffering effects were obtained for the interaction term based on emotional support, but not for practical support. These buffering effects were significant only for life events that occurred in the 6-month follow-up, but not for events prior to the time 1 assessment. This study supported Cohen and Wills (1985) prediction that esteem support and informational support (the emotional support measure containing items from these categories) should show buffering effects for most stressful events.

1.4.3 The Mediator Model of Social Support

A third model of social support also exists, an indirect effects or mediator model. In this model social support functions as an intervening variable between stressor and outcome (Quittner et al 1990). For example some stressful events might elicit shunning or avoidance responses by members of the social network. Traumatic or stigmatised events, such as illness or the death of a child, might lead network members to avoid contact with individuals experiencing these events or to respond in ways that are unhelpful. More negative perceptions of support could, in turn, increase symptoms of anxiety and depression (Quittner et al, 1990). Alternatively, those experiencing chronic stress conditions, and therefore engaged in frequent help-seeking behaviours, may exhaust their resources or perceive support as less helpful because its receipt magnifies feelings of inadequacy (Hobfall & Lerman, 1998).

Quittner et al's (1990) study compared parenting stress, social support and psychological distress among mothers of hearing impaired and normally hearing children. Mothers in the clinical (hearing impaired) group were predicted to report higher levels of parenting stress, lower perceptions of emotional support, smaller support networks, and higher levels of depression, anxiety and anger than mothers in the control group. Quittner et al (1990) reported considerable evidence that mothers of hearing impaired children experienced higher levels of stress in their parenting role and poorer emotional adjustment than mothers of nonimpaired children did. Mothers in the clinical group also reported their children as more distractible, moody, and demanding than controls. These mother's further reported feeling less attached to their children, feeling as though they were less competent parents and felt more restricted in pursuing

their own activities and interests. Mothers of hearing impaired children also reported higher levels of anxiety and anger compared with hearing children.

With regard to social support specifically, Quittner et al (1990) suggested, as predicted, that mothers of deaf children had significantly smaller support networks, with substantially fewer sources of support in the domains of family and friends than the control group. Unexpectedly Quittner et al (1990) reported that there were no differences between the groups with regard to perceived emotional support. An examination of specific sources of support suggested that mothers of deaf children relied more heavily on health care professionals than family and friends to meet their emotional support needs.

Quittner et al (1990) found no evidence for the buffering effects of social support. They suggested that although an increase in support may be helpful for short-term stressors, a sudden infusion of support in the context of chronic illness might be viewed as intrusive or suggestive of incompetence. For a long-term stressor such as parenting a difficult child, many suggestions are likely to have been made by network members. It is likely that these suggestions have been appreciated initially, however over time these efforts may be viewed as critical and unhelpful.

This study also demonstrated that stressors embedded within a specific context would predict maternal adjustment better than stressful life events. Quittner et al (1990) reported that 29% of the variance in maternal distress was accounted for by the impact of child stressors, whereas life events explained less than 2% of this variance. Strong predictive relationships were found for both the clinical and control groups, suggesting that measurement of domain specific stressors, not just severity of the stressor, accounted for the results (Quittner et al, 1990).

Provision of social support can be a positive strategy that can mitigate the effect of a child's disability on the family. Social support, which is critical to enhance family adaptation, may be defined as resources provided by those outside the family and includes informational, instrumental, psychological and material resources (Keller and Honig, 2004). Social support serves a decisive preventive role in reducing negative responses to life crisis and stress (Dunst et al 1990).

Social support has been consistently cited as a factor reducing parental distress (Weis, 2002; Duvdevany and Abboud, 2003; Smith, Oliver and Innocenti, 2001).

White and Hastings (2004) conducted a study investigating support for parents of adolescents with severe intellectual disabilities. They found that the parents of these adolescents reported similarly high levels of depression and anxiety as in other UK samples of parents of children with intellectual disabilities. Parents of children with autism reported more stress than parents of children without the diagnosis. It was also found, as consistent with previous research that the child's behaviour problems were associated with parental well being (Hasting's, 2002) although there was also evidence that adaptive behaviour was correlated with stress. White and Hastings (2004) also found that there were a number of positive associations between social support variables and measures of well-being. Parents in this study who reported more, or more helpful, social support were also those reporting higher levels of well-being.

White and Hastings (2004) demonstrated from their study that parents' perception of the helpfulness of informal sources of support had the most consistent associations with parental well being, it did not appear to be the number of informal supports that the individual had that was adaptive for parents in their sample. Practical support was also found to be associated with well-being whereas emotion was not. It may be that by the time their child reaches adolescence that the parents have come to terms with having a child with intellectual disabilities. White and Hastings (2004) found no evidence that suggested professional and service supports were associated with improved parental well-being. Accessing professional and service support appeared to be more strongly associated with the child's needs rather than with the parents needs.

This study was devised to look at severe intellectual disabilities only as well as adolescents, and therefore the results cannot be generalised to other populations. This relatively small sample may not be representative of the intended group, as there was a relatively high incidence of autism in the sample.

1.4.4 Social support for families from poor environments

Ghate and Hazel (2002) investigated the extent and quality of social support available to parents in poor neighbourhoods. They reported that social support is a protective factor in parenting and that it's absence is a definitive risk factor for parenting difficulties of all sorts including child maltreatment. They hypothesised that social support is directly protective in its provision of help and support at moments of particular need and as an indirect factor social support was protective in bolstering parents' self-esteem and sense of efficacy. Ghate and Hazel (2002) also hypothesised that social support acted as a stress buffer by providing instrumental and emotional assistance to these parents in times of need and acted as stress preventive by enhancing overall healthy functioning of the individual so that problems due to stress did not arise as easily.

1.4.5 Informal social support

Informal social support arises naturally from within the parents' network of family friends and neighbours. Family members were identified as supports most frequently over friends or formal supports (Feldman, Vargnese, Ramsay and Rajska, 2002). A lack of support at this level is particularly associated with parenting difficulties and parenting breakdown. Ghate and Hazel (2002) found that their sample of parents in poor environments most commonly had a support network of three people. These parents gave the impression of close-knit support relationships which were characterised by regular contact, both in person and by the telephone, as well as these supports being in close proximity.

However, regular contact, although seemingly beneficial, could be experienced as undermining rather than being supportive. For example, this might occur if parties did not have positive regard for one another, if they disagreed with regard to significant areas of family life or if they did not feel that they could rely on others for help at times when it was most greatly needed. Ghate and Hazel (2002) reported that having the sense of being supported seemed as important as any actual practical benefit that was derived from support. Similarly, mothers of children with autism have been found to socialise more with extended family than do mothers of children without autism, yet they report equal levels of satisfaction with leisure (Tunali and Power, 2002).

Ghate and Hazel (2002) concluded that although there were few parents in their sample without an informal network, generally parents in poor environments were not receiving a great deal of help and support through their informal network. As previously suggested they also report that how support feels to an individual may be as important as, if not more than, what that support actually consists of.

Those who perceived themselves to be unsupported tended to be those who were in fact receiving the most social support. These parents reported higher levels of enacted informal social support than those who reported feeling supported. In Ghate and Hazel's (2002) sample 75% of those who reported feeling unsupported had accessed semi-formal or formal support services in the last three years (as compared to 58% of parents who reported feeling supported). Having a 'difficult child' strongly related to feeling unsupported and having a pre-school child in the household was strongly associated with the desire for more help. A higher current problem score was associated with wishing for more help 'sometimes' or 'often'.

Family Support

Family support tended to consist of family members who were mostly female, with mothers often being cited as the main supporters as opposed to partners (Ghate and Hazel, 2002). For parents with a resident partner, spouses and partners were the most frequently named sources of help and support. Given these findings it may be expected that for lone parents their own mother was the most frequent source of support with less than a quarter of single parents in Ghate and Hazel's (2002) study naming an ex-partner as a source of support and help. Lone parents therefore would often lose out on a wider support network due to losing the support of a partner and the partner's wider family. Ghate and Hazel (2002) concluded that the higher the need for social support the smaller the networks tended to be for this group.

It is thought that personal and other resources are associated with successful adaptation in families. Hastings, Thomas and Delwiche (2002) described the results of a preliminary study of relationships between parental stress and grandparent support and conflict. They found no difference between mothers and fathers in the same family in terms of their reports of stress and their ratings of support from and conflict with

grandparents. They also found that grandparent support and conflict was associated with mothers' but not fathers' ratings of stress on the Questionnaire on Resources and Stress (QRS, Freidrich, Greenberg and Crinc, 1983).

The results of Hastings et al (2002) study should be taken with some caution, as due to a small sample size these results may not be representative of families of children with intellectual disabilities generally. This study included a measure of emotional support provided by grandparents, which may have led to different results from previous studies in this area. The most significant finding from this study was that the conflict or disagreement with grandparents was related to mothers' reports of stress. All but nine of the parents in Hasting et al's (2002) study agreed that there was at least some level of conflict or disagreement with grandparents. It was Hasting et al's (2002) view that their data provides empirical evidence of the more negative dimension of relationships between parents and grandparents of children with disabilities, which had previously been only anecdotal.

1.4.6 Semi-formal and Formal support

Semi-formal support and formal support are organised support that is provided by community groups and formal helping agencies.

Semi-formal support

Ghate and Hazel (200) found that services offering support directed at parents were very infrequent. However they reported that when parents had made contact with services they tended to make fairly extensive use of them. Within their sample, services, which were aimed at providing childcare and developing the child's play/education, were also seen as meeting parents own personal needs. This was done through the socialisation of the child, access to maternal resources, social interaction for parents and respite. Ghate and Hazel (2002) also reported that parents with a child at pre-school and those with an under eight year old in the household were more likely than other parents to have used semi-formal services in the past three years. Parents were more likely to access semi-formal supports if they had a high level of current problems and lower levels of semi-formal services were associated with lower numbers of informal supporters.

Formal support

Several studies have demonstrated the positive impact of service supports on families. Ghate and Hazel (2002) reported that half of their sample of parents in poor environments had been in touch with formal services in the past three years. They also reported that although a high percentage of the parents in their sample reported knowing about services generally, many were unaware of the availability in their own area. As reported above however, once in contact with formal services the families tended to make relatively extensive use of them. Parents who were more likely to access formal supports were those who had a high level of current problems and those who had a large number of children. Service use did not seem to be related to poverty; those with low incomes or lone parents were no more likely to access formal services than other parents. Perceptions regarding the quality of formal supports in this study were largely positive with half of those accessing services rating them as "very useful" and a third as 'fairly helpful'. Qualitative data from Ghate and Hazel's (2002) study gave a clear and consistent message that parent's satisfaction with services depended substantially upon whether the professionals involved made them feel respected as adults and treated their concerns as legitimate.

Hall (1996) carried out a study within her local area with the aim of investigating support and provision available locally. It was found that overall half of the parents sampled were satisfied with the multi-professional support that they received. However many of these parents had identified the omissions in service provision which existed at that time. The areas which parents were dissatisfied with included lack of information, communication problems between agencies, absence of key worker support after diagnosis in the younger years, and fathers remaining apostate from the support networks. This sample of parents reported that respite care was becoming increasingly unobtainable and Halls' (1996) results showed that lack of respite care increased parental stress considerably.

1.5 At risk parents

Ghate and Hazel (2002) suggest that socially unsupported parents became isolated, at least in part, due to their own negative attitudes to support, which in turn was shaped by their personality and temperament. The antecedents to negative attitudes included severe and chronic levels of disadvantage, which parents had to face leading them to feel pessimistic about the ability of external support to solve problems. The consequence of this is that negative attitudes reinforce their isolation from support and assistance.

Personality factors are also seen as a powerful explanation for the lack of social support, which manifests itself through a lack of social competence in making and sustaining supportive social relationships. In concordance with this Polensky, Gaudin, Ammos and Davis (1981) suggested that parents with multiple psycho-social problems were temperamentally disadvantaged by an inability to engage in reciprocal exchanges of support. These parents are prone to feeling threatened rather than supported by close relationships with neighbours. These individuals generally construe offers of help as interference and are generally difficult to befriend. In such cases the difficulty is not the availability of support but the inability of the individual to mobilise and draw on that support.

1.6 Barriers to support

Often there are strong barriers, which influences the uptake of support that is available. This can be related to the attitudes that individuals hold with regard to asking for or receiving support. Some individuals perceive informal support as potentially threatening or undermining. Individuals can feel uncomfortable with the expectation of reciprocity, and this is not confined to those with more severe levels of personal problems or parenting difficulties (Ghate and Hazel, 2002). There can be concerns regarding the recruitment of family members as support, as parents may feel that they have to relinquish some of their own control in these situations. There may also be concerns regarding loss of privacy to the wider family, or family members may find it difficult to know where to draw the line between 'support' and 'interference'. There may also be a resistant to 'put upon others' and a stigma that parents ought to be able to handle their own problems without assistance.

When asking friends or neighbours for help, Ghate and Hazel (2002) found that half of their sample would not divulge personal information due to worries regarding confidentiality. Almost a third of participants asking friends or neighbours for help reported that they would feel in debt to that individual. A fifth of parents in this study reported believing that asking for help was a sign of not coping. From their results Ghate and Hazel concluded that the neediest parents in the community they sampled were most likely to be hostile to concepts of support.

It therefore seems that informal social support is not a concept with purely positive attributes despite the optimistic assumption that social support must by definition be a positive thing. Could it be that parents who have a higher level of current problems have more to hide and therefore more to lose from intrusion than other parents? Or are parents with a high level of support least likely to be in the position to return favours for which they may feel indebted?

Summary

High levels of parental stress can have a cumulative effect over time and have a negative impact on family relationships (Quittner et al, 1990). It is therefore important that we continue to study factors, which can lead to an increase or reduction in parental stress. In investigating parental stress it is important to look at both aspects of the child which might contribute to stress in the parent, as well as aspects of the parents functioning which may contribute to their own stress.

Stress experienced as a parent can be the result of many factors including lack of informal or formal social support, diminished psychological resources (such as symptoms of mental distress), stressful life events, and difficult parent-child interactions, all of which may contribute to higher levels of parental stress (LeCuyer-Maus, 2003). It has also been reported that some parents are predisposed to have difficulties in meeting the challenge of parenting by virtue of their personal characteristics and circumstances (LeCuyer-Maus, 2003; Ghate and Hazel, 2002). Some children are also more difficult and less rewarding to parents than others, with each of these factors influencing each other in a bi-directional process.

The way in which a parent appraises the stressful situation will determine the degree to which the stress disrupts his or her parenting practices and consequently will determine the degree of risk that the child will develop difficulties. It has also been hypothesised that the detrimental effects of maternal depression emerge by the time an infant is one-year-old and that a diagnosis of depression may be useful in making predictions about some aspects of parenting behaviour and about mothers' parenting styles (Osyerman et al, 2000).

In the child long-term health problems can be associated with parenting difficulties, as can temperament and behavioural characteristics such as irritability, fussiness, hyperactivity and other challenging behaviours. Baker et al (2002) found that parents of children with delays reported higher total scores on the Child Behaviour Checklist than parents of children without delays. Over time problems for the delayed group, in Baker et al's (2003) sample, increased. Generally there were moderate agreements between mothers' and fathers' assessments of their child's behaviour.

Parents of children with learning disabilities report relatively high levels of distress, with a wide range of child, parent, family and service support factors implicated in parental distress (Hatton and Emerson, 2003). Parents of children with learning disabilities are at increased risk of stress and other mental health problems. Dyson (1997) reported that the perceived parental stress in the families of school children with disabilities pertained specifically to parental and family problems due to the child's special characteristics.

The role of social support variables in protecting and maintaining physical and psychological health has been well established across a variety of studies (Koeske and Koeske, 1990; etc). Although there are a number of hypotheses as to how social support is related to mental health outcomes it is generally accepted that a lack of positive social support relationships can lead to negative psychological states such as anxiety and depression and also increased parental stress. A lack of support at the family level is thought to be particularly associated with parental difficulties and parenting breakdown (Feldman et al, 2002). Ghate and Hazel (2002) reported that having the sense of being supported seemed to be as important as any actual practical benefit that was derived from the support. It also seemed that the perception of being supported was more important than the size of an individual's support network.

Aims

The main aim of this study is to investigate factors which may affect levels of parental stress in a local sample of parents whose child have been through the process of a the multi-professional assessment of their difficulties.

This study intends to look at whether perceived levels of social support are related to levels of parental stress. For example, it is the intention of this study to investigate whether parents who report higher levels of perceived social support report lower levels of parental stress than those who report lower levels of perceived social support. As indicated by the literature on social support, many studies have shown that receiving help from friends and family and having a close social network can act as a protective factor against parental stress. The aim of this study is therefore to investigate whether this result will be replicated in the current sample.

Perceived level of child difficulty has also been shown to have an impact upon the levels of stress experienced by parents. Much of the literature indicates that the greater the child's difficulty, as perceived by the parent, the more detrimental the effect on parental stress. A further aim of this study therefore is to investigate whether the perceived level of child difficulty impacts on the level of parental stress in the current sample.

As discussed previously, a key factor often reported in the literature is the fact that mothers of children with disabilities are at markedly increased risk of suffering from psychological distress and depression. It is therefore the aim of this study to investigate the impact of reported depressive symptomatology on levels of parental stress.

This study also aims to examine correlational relationships that may exist between factors such as levels of parental stress, perceived social support and perceived level of child difficulty, while controlling for the other factors.

Hypotheses

1. Perceived levels of social support will be indicative of reported levels of parental stress.
   1a. Parents with higher levels of perceived social support will report lower levels of parental stress while parents who report lower levels of perceived social support will report higher levels of parental stress.
   1b. The number of social supports that an individual reports will not be indicative of their overall perceived level of social support.

2. Levels of perceived child difficulty will be associated with levels of parental stress.
   2a. Parents reporting higher levels of perceived child difficulty will report higher levels of parental stress while parents who report lower levels of perceived child difficulty will report lower levels of parental stress.
   2b. Participants in the current study will report higher mean total distress scores on the Strengths and Difficulties Questionnaires in comparison to a normative sample.

3. Correlational relationships will be found between levels of parental stress, levels of perceived social support and levels of perceived difficulty in the child.

4. Higher levels of reported depressive symptomatology will be associated with higher levels of parental stress in the current sample.

Chapter 2: Method

2.1 Design

A cross-sectional correlational design was used to investigate levels of parental stress in relation to social support, perceived level of child difficulty and depressive symptomatology.

2.2 Participants

All of the participants were parents of children who had been referred to the Raeden Assessment Centre, Aberdeen, for a multi-professional assessment of their difficulties. The Raeden Assessment Unit facilitates the assessment of children with a variety of difficulties such as developmental delay, autism, language problems, and severe behavioural difficulties as well as a variety of other difficulties. Children attend the Assessment Unit everyday for a week along with their parents. During this time both the parents and children meet with a variety of professionals who carry out individual assessments as required. The professions of those involved in the assessment unit include psychiatry, occupational therapy, speech and language therapy and psychology. Over the course of the assessment week nursery nurses also carry out extensive observations of the child in order to carry out a detailed assessment of the child's developmental level in various areas of functioning.

The participants were parents of children who had attended Raeden six to twelve months previously for a multi-professional assessment of their difficulties. Previous records were accessed to obtain the names and addresses of potential participants.

2.2.1 Inclusion Criteria

The inclusion criteria for participation in the current study were:

1. Parent of a child who had attended the assessment unit at Raeden Assessment Centre, Aberdeen 6 to 12 months previously.

2. Parent of a child aged three years or more at the time of their assessment at Raeden.

3. English speaking as all measures to be used were standardised with an English speaking population.

2.2.2 Exclusion Criteria

Participants were excluded from the study if they met any of the following criteria:

1. Parent of a child below the age of three years as the Strengths and Difficulties Questionnaire is not standardised for children below the age of three years.

2. First language not English as all measures had been standardised on an English speaking population.

2.2.3 Recruitment

Based on the above criteria all suitable participants were identified by Paediatricians at Raeden and a letter inviting them to participate was sent (see appendix 1). They were also sent an information sheet (see appendix 2) and a consent form (see appendix 3). Once consent was received questionnaire measures including a brief demographic questionnaire (see appendix 4), were sent to the parents.

2.3 Ethical Approval

Prior to commencing the study, the researcher met with the Consultant Paediatricians at the Raeden Assessment Centre, in order to obtain their advice and approval for commencing the study.

The Grampian Research Ethics Committee granted ethical approval (see appendix 5). Following ethical approval being granted, approval from the Grampian Research and Development Committee was obtained before data collection began.

2.4 Materials

The measures used in the current study are summarised in table 1.

Variable	Measure	Reference
Parental Stress	Parental Stress Index/Short Form	Abidin (1990a)
Depressive Symptomatology	Beck Depression Inventory - Fastscreen	Beck (2000)
Social Support	Significant Others Scale	Power, Champion and Aris (1988)
Social Support	Social Support Questionnaire	Sommer and Fydrich (1991)
Level of child difficulty	Strengths and Difficulties Questionnaire	Goodman (1997)

Table 1: List of measures used in current study.

Where possible, and in agreement with copyright legislation, copies of the materials are included in the Appendices. Each participant completed the following measures:

Parental Stress Index/Short Form

The Parental Stress Index/Short Form (PSI/SF) (Abidin, R., 1990a) is a direct derivative of the Parenting Stress Index full-length measure. All items on the short form are contained on the long form with identical wording. There are three subscales of the PSI/SF which are labelled Parental Distress, Parent–Child Dysfunctional Interaction, and Difficult Child.

Participants are asked to complete brief demographic information before responding to a number of statements. They are required to respond to each item by circling one of the following:

SA (strongly agree)
A (agree)
NS (not sure)
D (disagree)
SD (strongly disagree)

Some items require a different response; these are preceded by a cue to use a different response format (e.g. "for the next statement, choose your response from the choices '1' to '5' below).

The first score which can be obtained from the PSI/SF is the Defensive Responding score. This score assesses the extent to which the respondents approach the questionnaire with a strong bias to present the most favourable impression of themselves to minimise indications of problems or stress in the parent-child relationship. The remaining groups of twelve items give scores corresponding to the three subscales (Parental Distress, Parent–Child Dysfunctional Interaction, and Difficult Child). A Total Stress score is obtained by adding the three sub-scores obtained for Parental Distress, Parent-Child Dysfunctional Interaction and Difficult Child. The Defensive Responding Score is not included to obtain this Total Stress score. Raw scores can also be converted into percentile scores with the normal range being 15^{th} – 80^{th} percentile and high scores being considered at or above 85^{th} percentile.

The PSI/SF was developed through a series of factor analyses. These factor analyses resulted in a three-factor solution as the best description of the data (Abidin, 1995). The final descriptive statistics and normal ranges for the 36-item PSI/SF were produced by combining the initial and replicated samples.

Estimates of both test-retest reliability and internal consistency can be found in table 2. Test-retest reliability was assessed using the first sample over a six-month retest interval. Coefficient alpha was calculated, based on the entire normative sample of 800 subjects. In addition Roggman, Moe, Hart and Forthun (1994) studied 103 Head Start parents and reported PSI/FS alpha reliabilities of 0.79 for Parental Distress, 0.80 for Parent-child Dysfunctional Interaction, 0.78 for Difficult Child and 0.90 for Total Distress.

Scale	Number of items	Test-Retest a	Alpha-b
Total stress	36	.84	.91
Parental Distress (PD)	12	.85	.87
Parent-Child Dysfunctional Interaction (P-CDI)	12	.68	.80
Difficult Child (DC)	12	.78	.85

Table 2: Test-Retest and Internal Reliability Coefficients for the PSI/SF (aN = 270, bN = 800)

In terms of the validity of the PSI/SF the correlations between the PSI/SF and the full length PSI were determined from a sample of 530 subjects from the PSI full-length normative sample. Total stress on the full-length PSI correlated 0.94 with PSI/SF Total Stress, which is exceptionally high and comparable to the 2-week test-retest reliability of the full-length PSI, which is 0.95 (Abidin, 1995). Examination of the pattern of correlations suggests that the PD subscale score was highly correlated with the Parent Domain score of the full-length PSI (r = 0.92). The DC subscale score was highly correlated with the Child Domain of the full-length PSI (r = 0.87). P-CDI was correlated 0.73 and 0.50 with the Child Domain and the Parent Domain scores from the full-length PSI, respectively. These lower correlations were expected, because the P-CDI subscale contains items from both the Child Domain and the Parent Domain (Abidin, 1995).

Beck Depression Inventory – FastScreen

The Beck Depression Inventory – FastScreen (BDI – F/S) (Beck, A., 2000) is a seven item self-report case-finding instrument that screens for depression in adolescents and adults. It consists of seven items extracted from the twenty-one item Beck Depression Inventory-II (BDI-II; Beck , Steer, & Brown, 1996). The BDI – F/S measures the severity of depression that corresponds to the psychological or nonsomatic criteria for diagnosing major depression disorders as listed in the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM – IV; American Psychiatric Association, 1994). It was specifically developed for evaluating symptoms of depression in patients reporting somatic and behavioural symptoms that may be attributable to biological, medical, alcohol, and/or substance abuse problems.

In the current study the BDI – F/S was used cautiously for screening purposes and is not considered to be a substitute for the BDI – II. However, this briefer questionnaire was chosen, as opposed to the BDI-II, so as not to make the questionnaire package too long.

In investigating the psychometric characteristics of the BDI – F/S it was administered to a number of samples including a sample of 94 primary care outpatients whom were selected from six family practices. The coefficient alpha of the BDI – F/S for the family practice group was 0.85 which is comparable to the alpha for the BDI – 1A (Beck and Steer, 1987b). Cicchetti (1994) described coefficient alphas within the mid – 80s as having "good" reliability for clinical purposes.

To measure construct validity the BDI – F/S was compared to the Depression subscale of the Hospital Anxiety and Depression Scale (Zigmond and Snaith, 1983). It was found to be positively related to this widely used scale for measuring self-reported depression in medical settings (Beck, Guth, Steer & Ball, 1997a).

Significant Others Scale

The Significant Others Scale (SOS) was developed by Power, Champion and Aris (1988) to assess five emotional and five practical social support functions in 12 individuals (including spouse/partner, father, closest sibling, closest child, best friend, other). It was also simplified to assess four different social support functions (two emotional and two practical) in seven individuals. The current study utilises a version of this shorter scale which specifies the first three individuals (partner, close relative, close friend) and allows the participant to select a further three individuals (see appendix 6).

For all of the social support functions each individual is rated in terms of the level of support that they provide and the ideal level of support that the participant would like from them. A seven-point scale is used for these ratings, which ranges between 1 (never) and 7 (always). Scores are derived from the actual support received and the ideal levels of support, as well as the discrepancy between the two scores. The discrepancy score provides an index of likely satisfaction with available support in each area. Scores obtained for each type of support for each individual can be summed

across individuals to give separate measures of emotional support and practical support. The total scores are also divided by the number of individuals rated to give a mean score for each type of support.

Although there are no normative data on large samples, mean support and discrepancy ratings have been derived for a number of different groups (Power et al, 1988).

Power et al (1988) indicate that the SOS shows satisfactory reliability and validity. Test-retest reliability over a six-month interval ranges from 0.73 to 0.83 across the four summary support scales (actual vs ideal x emotional vs practical). Criterion validity was tested by comparing the scores of three groups (non cases, non-depressed cases and depressed cases) varying in psychopathology according to scores on the General Health Questionnaire – 28 (GHQ – 28). These groups were not shown to demonstrate differences on their scores for practical and emotional support subscales, however they did show significant differences in ideal and discrepancy scores on both subscales. The depressed group demonstrated significantly higher scores than the other groups for both ideal and discrepancy scores, the other two groups did not differ. Thus the ideal practical and emotional support scores for depressed subjects were significantly higher and showed bigger discrepancies between ratings of actual and ideal support.

For the purposes of this study actual emotional support and actual practical support scores were combined to give a total support score. Also, the emotional support discrepancy and practical support discrepancy scores were combined to give a total discrepancy score for each participant. The aim of the current study was to investigate the overall effects of social support as opposed to looking at each individual aspect of social support.

Social Support Questionnaire

The Social Support Questionnaire (SSQ) (Sommer and Fydrich, 1991) consists of thirty-two items which are rated on a likert scale of 0 to 4, with 0 indicating not at all and 4 indicating exactly right (see appendix 7). These thirty-two items relate to four aspects of perceived social support, which are emotional support, practical support,

social integration and social strain. It also has two additional dimensions; perceived overall satisfaction and reciprocity of social interactions.

The SSQ has been used in numerous studies; the range of the Cronbach alpha for the main subscales over eight norm studies is illustrated in table 3. These reliability coefficients are sufficiently high and independent of the norm sample.

Scale	Cronbach alpha
Emotional support	0.84-0.92
Practical support	0.78-0.91
Social integration	0.77-0.86
Social strain	0.78-0.84

Table 3: Cronbach alpha for SSQ subscales

Within the norm groups the three positive scales of social support show significant positive correlations between 0.39 to 0.73. Social strain as expected is negatively correlated with the other scales with coefficients between -0.16 and -0.70. In a factor analytic validation in a non-clinical sample (N=339) the four main factors separate sufficiently and explain 59.2% of the variance. Further construct validation demonstrates good predictive power of the SSQ in relation to psychosocial factors such as social competency and social uncertainty. In community and clinical samples the SSQ shows further good predictive validity regarding depressive symptomatology and anxiety symptoms (ß: 0.66 - 0.77).

An English language version and validation of the translated scale is provided by Schwannauer (1997).

Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioural screening questionnaire for 3-16 year olds (see appendix 8). The SDQ contains twenty-five items, which ask about psychological attributes, some positive and others negative. These twenty-five items are divided between five scales which measure:

1. Emotional symptoms
2. Conduct problems
3. Hyperactivity/inattention
4. Peer relationship problems
5. Prosocial problems

The extended version of the SDQ, used in the current study, also contains an impact supplement which asks whether respondents think that the young person has a problem, and if so, enquires further about chronicity, distress, social impairment and burden on others.

A slightly modified informant rated version, also used in the current study, was created for the parents and nursery teachers of three (and four) year olds. This modified version of the scale contains twenty-two of the original items with the item on reflectiveness being softened and two items on antisocial behaviour replacing the items on oppositionality.

The SDQ was normed on a representative British sample of 10,438 young people aged between five and fifteen. Complete SDQ information was obtained from 10,298 parents (99% of sample), 8,208 teachers (79% of sample) and 4,228 eleven to fifteen year olds (93% of this age band).

Goodman (1997) compared the SDQ with the Rutter questionnaires (Elander & Rutter, 1996). Given the well-established validity and reliability of the Rutter questionnaires, the high correlation between the total scores generated by the SDQ and the Rutter questionnaires is evidence for the concurrent validity of the SDQ (Goodman, 1997). Parent-teacher correlations were either equivalent for the two measures or slightly favoured the SDQ. Goodman (1997) reported that ROC analyses showed that the two measures had equivalent predictive validity, as judged by their ability to distinguish between psychiatric and nonpsychiatric samples. In a study examining the extended version of the SDQ Goodman (1999) reported that while clinical status was better predicted by impact (as measured by the impact supplement) than by the total symptoms score, the best prediction was from both impact and symptoms.

2.5 Procedure

Participants were contacted by letter in the period six to twelve months after their child had attended the Assessment Unit at Raeden. Parents who wished to participate after having read the information sheet were asked to complete the enclosed consent form and return it in the pre-addressed envelope.

Following receipt of the completed consent form participants were sent a package of questionnaires (participants who indicated that a second parent at home would like to participate were sent two sets of questionnaires). This included a brief demographic questionnaire, The Parental Stress Index – Short form, the Beck Depression Inventory – Fast screen, the Significant Others Scale, the Strengths and Difficulties Questionnaire and the Social Support Questionnaire. Written instructions were provided along with each questionnaire. Participants were then asked to complete all of the questionnaires and to return them in the pre-addressed envelope at their convenience.

Four to six weeks prior to the end of the study participants were sent a further letter (see appendix 9) to prompt them to return any completed questionnaires so that they may be included in the study, as the study was now drawing to a close.

2.6 Data Analysis

Data were analysed using Statistical Package for Social Sciences (SPSS), Version 11.5 for Windows. When the completed questionnaires were returned, they were scored and the results were entered into a database with no identifying information.

Parametric tests were used to test associations between measures when the appropriate assumptions were met, for example where interval data was being analysed, variables were found to be normally distributed and the scores on each variable were independent in that each individual's score was not affected by another individual.

Non-parametric tests were used when the assumptions for parametric tests were not met. As non-parametric tests make relatively few assumptions about the nature of the data population, they are appropriate for small data sets where assumptions of normality may not be met and where tests of normality lack power. Non-parametric tests were therefore used to compare questionnaire responses between the different age groups within the sample.

The Pearson's Product-Moment correlation test was used where assumptions were met, to examine the associations between variables. Spearman's correlations were used where assumptions for parametric tests were not met. The non-parametric test used to make comparisons across parental age groups was the Kruskal Wallis test. One-sample t-tests were used to make comparisons between the current sample and normative samples.

Where significant results were found following correlation analyses, a correlation coefficient of 0.10 is considered a small effect size, 0.30 is medium and 0.50 is large (Cohen, 1988).

As discussed there is a large body of research which suggests that higher levels of parental stress are associated with higher levels of perceived child difficulty (e.g. Ghate and Hazel, 2002 and Baker et al, 2002), as well as being associated with lower levels of social support (e.g. Cohen and Wills, 1985 and Koeske and Koeske, 1990). Therefore, in order to determine the number of participants required, power was taken to be 0.8,

alpha 0.05 and a large effect size was assumed. Using the tables in Cohen (1992) the required N was estimated to be 28 for correlational analyses.

All variables were checked for assumptions of normality by examining frequency distribution charts and values of skewness and kurtosis.

Due to the wide age range of participants in the sample, participants were categorised into three age groups, twenties, thirties and forties. This allowed a more detailed analysis of the effect of potential age on the variables.

Chapter 3: Results

3.1 Participants

3.1.1 Response Rate

Of the one hundred and seventy-six parents contacted, fifty-five (31%) replied to the initial contact letter with fifteen of these requesting two sets of questionnaires (see chart 1). A total of seventy participants therefore received a set of questionnaires and forty-four were returned; a response rate of 63%.

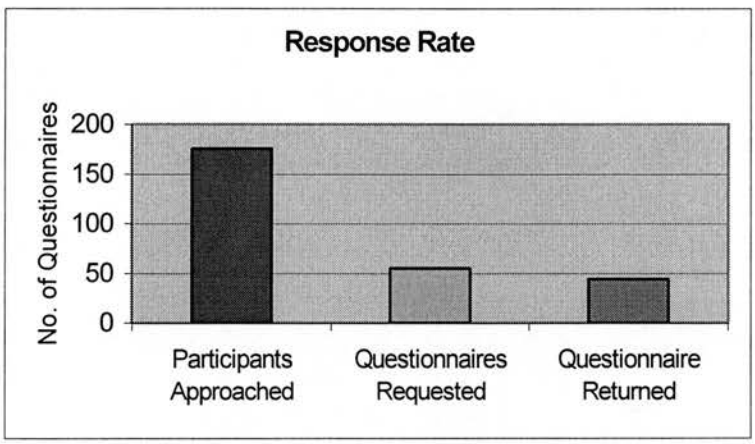


Chart 1: Participant Response Rate.

3.1.2 Demographic Characteristics

Gender of Participants

As demonstrated by chart 2, forty (91%) questionnaires were returned by mothers and four (9%) were returned by fathers.

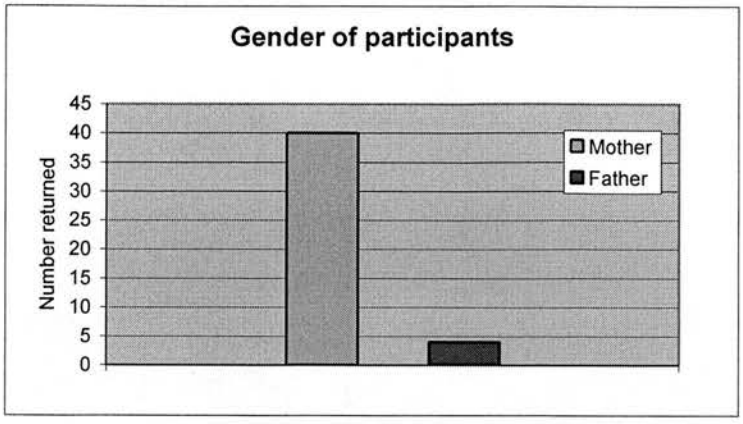


Chart 2: Gender of parents returning questionnaires.

Chronological Age

The age of participants ranged from twenty-three years to forty-eight years with the mean age being thirty-six years (see table 4).

Parental Ages		
Minimum	**Mean**	**Maximum**
23	36	48

Table 4: Range and Mean ages of participants.

The ages of the children whose parents participated in the study ranged from 3 years to 5.5 years with the mean age being 3.4 years.

The mean number of siblings in the families of parents who participated in the study was 1.5 (ranging from 0 to 4) with the mean age being 7.2 years (see table 5).

Sibling Information			
Mean age of siblings	**Minimum number of siblings**	**Mean number of siblings**	**Maximum number of siblings**
7.2	0	1.5	4

Table 5: Number of siblings and their ages.

Education

Of those who responded to this item, nine parents had obtained an education up to high school level, and nine had obtained an education up to college level. A further twelve parents had obtained a university level qualification and one parent had obtained an additional professional qualification (see chart 3).

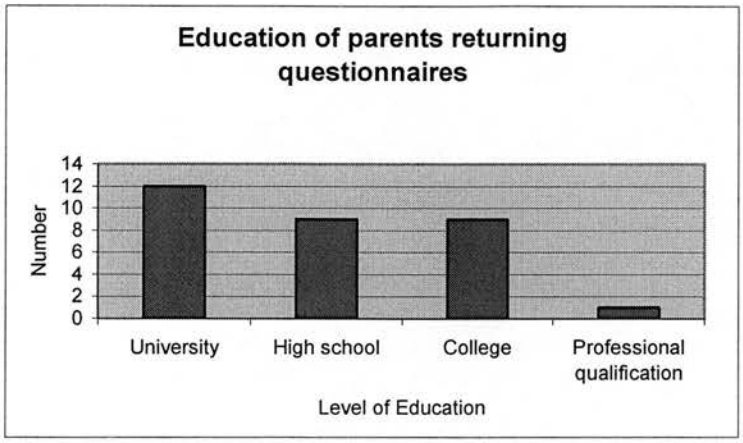


Chart 3: Educational level of parents returning questionnaires.

Marital Status

Chart 4 presents the marital status of parents who returned their questionnaires. Twenty-six parents were married, two were divorced or separated, four were living with their partners and two were single.

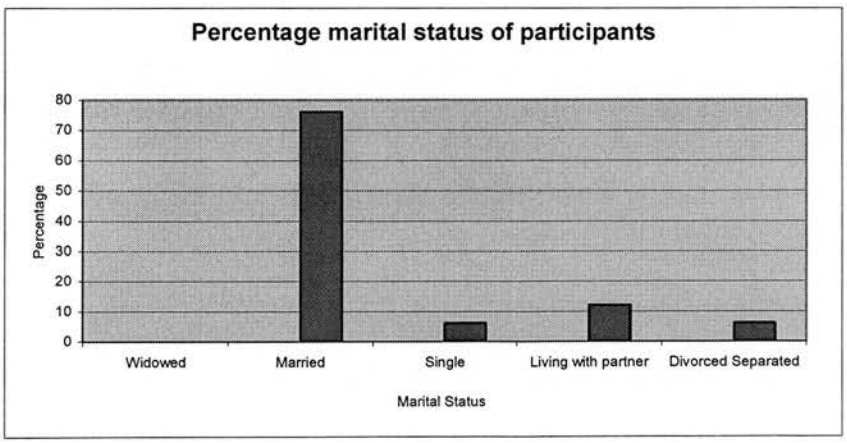


Chart 4: Percentage marital status of participants

Employment

Of those who responded to this item sixteen participants were housewives or stay-at-home mothers. Eighteen participants were employed while two were unemployed and one participant undertook voluntary work.

3.2 Exploratory Analysis

3.2.1 Missing Data

Randomly distributed missing data was accounted for by SPSS, which removed cases with missing values from the analysis on an individual test basis. Variable sample sizes are therefore recorded depending on the variables used.

3.2.2 Sample Distribution

In order to investigate whether the results obtained in the current study were normally distributed the statistical method suggest by Tabachnick and Fidell (1996) was implemented. When a distribution is normal, the values of skewness and kurtosis are zero. Tabachnick and Fidell (1996) suggest that significance tests for both skewness and kurtosis compare the obtained value against the null hypothesis of zero. Firstly the standard error of skewness (Ss) is approximated by the following equation $Ss = \sqrt{6/N}$ where N is the number of cases. The obtained skewness value is then compared with zero using the z distribution, where $z = S-0/Ss$ and S is the value reported for skewness. The standard error for kurtosis (S_k) is approximated from the following equation $S_k = \sqrt{24/N}$ and the obtained kurtosis value is compared with zero using the z distribution, where $z = K-0/S_k$ and K is the value reported for kurtosis. Values for skewness and kurtosis for the current data were obtained from the SPSS Frequencies function. Table 5 shows the significance levels for both skewness and kurtosis of the current data. Tabachnick and Fidell (1996) suggest that a conservative alpha level of 0.01 is used to evaluate significance, 2.56 is the score criterion for significance at the 0.01 level (see table 6).

	Standard error for skewness	Significance value (z score)	Standard error for kurtosis	Significance value (z score)
PSI/SF – Total stress	0.369	-1.626	0.739	-0.890
SDQ – Overall Distress	0.374	0.545	0.747	-0.428
SOS – number of supports	0.369	1.957	0.739	-1.123
SOS – Total Support	0.369	0.366	0.739	-0.96
SOS – Total Discrepancy	0.146	2.690*	0.765	-0.859
BDI – Total score	0.369	1.274	0.739	0.773
SSQ – Total Positive Support	0.369	-0.453	0.739	-0.334
SSQ – Social Strain	0.369	0.144	0.739	-1.041

* Values significant to the 0.01 level.

Table 6: Skewness and kurtosis values for the current data.

Table 6 shows the test statistics for the current sample distribution, which demonstrate that the current sample data is normally distributed with the exception of the total discrepancy data for the Significant Others Scale (SOS). The total discrepancy data for the SOS is positively skewed which indicates that the mean for this variable is not in the centre of the distribution as it would be if it were normally distributed. As only one variable was not normally distributed and for ease of interpretability (Tabachnick and Fidell, 1996) this variable was not transformed. As discussed in section 3.2.4, non-parametric tests were considered more appropriate.

3.2.3 Data Measurement

For the assumptions of parametric tests to be met, data should be interval. The questionnaire data in this study were measured on a variety of Likert scales ranging from 3-point scales to 7-pointscales, and this would usually be classed as discrete or ordinal data. However, Clark-Carter (2004) reports that statisticians are less concerned with this assumption and Tabachnick and Fidell (1996) argue that the type of measurement is not as crucial as the distribution of the data. If the measurement is ordinal therefore and has a sufficient number of levels (usually considered to be 7 levels

or more), then parametric tests can be used (Clark-Carter, 2004). Although a number of the scales were measured on only 3 to 5 levels, it was decided that due to the reduced emphasis on this assumption and the common practice of treating such data as continuous (Tabachnick and Fidell, 1996), these measurements could be treated as continuous for the purposes of analysis.

3.2.4 Statistical Considerations

Where possible parametric tests were implemented as they are considered to have more power, when their assumptions are met, than their non-parametric equivalents, which means that the likelihood of committing a type-II error is reduced (Cohen, 1988). Their calculation involves the estimation, from the sampled data, of population parameters. As mentioned parametric tests also make certain assumptions about the data which will be discussed.

In order to investigate whether there is any association between factors such as parental stress, social support, perceived level of child difficulty and parental depressive symptomatology a number of correlations were carried out. Where parametric assumptions were met the Pearson's Product Moment correlation was utilised to examine the relationship between two variables. The first assumption in relation to the current data is that the data is interval. The second assumption is that the sample will be normally distributed. The final assumption is that the relationship between the variables being examined is linear.

Where assumptions were not met a non-parametric equivalent was implemented. For example, for correlations involving the total discrepancy score of the SOS, which was not normally distributed, the Spearman's correlation was implemented. Non-parametric tests were chosen as they make less stringent demands on the data. Although it could be argued that the use of non-parametric tests is more likely to lead to a Type II error, Cohen (1988) posits that this is only the case when data fulfil the requirements of parametric tests yet we still use non-parametric tests.

The current sample data for the SDQ was compared to the normative sample data. For this analysis a one-sample t-test was used to indicate whether there was a significant difference between the mean total distress score of the current sample and the normative sample. One-sample t-tests allow the evaluation of a single sample mean when the population mean is known but the population standard deviation is not known. Statisticians have concluded that it is not possible to produce an approximation of the population standard deviation from the standard deviation of the sample, which is sufficiently accurate to be useable in a z-test. Instead they have devised a different type of distribution, which can be used to test the significance of the difference between the sample mean and the population mean, the t-distribution (Cohen, 1988). The assumptions of the one-sample t-test, which were met in this case, are that the sample is normally distributed, that the population mean is known and that the sample mean and standard deviation are known.

In order to examine the relationships between parental stress, perceived level of child difficulty and perceived social support in more detail, partial correlations were used to examine the relationship of two of the variables while partialing out the possible effect of the third variable. As the factors being examined through partial correlation had met the assumptions for parametric tests, as discussed above, partial correlations with Pearson's r was implemented.

Finally, Kruskal-Wallis analysis was used to investigate any possible differences between parental age differences. As the current participants were divided into three age-group samples, this resulted in small sample sizes. Where samples are small, tests of normality become less powerful. As it is therefore not possible to assume normality of distribution, it is reasonable to use nonparametric tests in this instance. The Kruskal-Wallis test does assume that the distributions of the different conditions are the same and that individual scores are independent of each other and these assumptions were met by the current data.

3.3 Hypothesis 1: Perceived levels of social support will be indicative of levels of reported levels of parental stress.

1a. Parents with higher levels of perceived social support will report lower levels of parental stress while parents who report lower levels of perceived social support will report higher levels of parental stress.

A Pearson's product-moment correlation was carried out to investigate any association between the total stress score of the Parental Stress Index-Short Form and the total perceived positive support score of the Social Support Questionnaire. A significant negative correlation was found between these scores ($r = -0.481$, $N = 44$, $p = <0.01$, one-tailed) suggesting that higher scores on parental stress are associated with lower levels of perceived social support. An effect size of 0.481 was found, which according to Cohen (1988) suggests between a medium and large effect.

Table 7 details the mean and range of the participants' total raw scores on the Parental Stress Index/Short Form.

Minimum (raw score)	Maximum (raw score)	Mean (raw score)
48	159	102

Table 7: Range and mean of total raw scores on PSI/SF for participants.

Table 8 presents the percentage of parental ratings within the normal range of the PSI/SF rating scale, as well as the percentage of scores below and above the normal range (see appendix 10 for further subscore ratings).

PSI/SF - Total Stress scores		
1^{st}-15^{th} percentile Low Score Range	15^{th}–80^{th} percentile Normal Range	85^{th}–100^{th} percentile High Score Range
5%	27%	68%

Table 8: Percentage of parental scores on the total stress subscale of the PSI/SF within the normal range.

As can be seen by table 8, the majority of parents rated their stress within the high score (above average) range.

Table 9 presents the range and mean scores for participants' ratings of perceived total positive support on the Social Support Questionnaire.

Minimum (raw score)	Maximum (raw score)	Mean (raw score)
3.2	9.7	6.6

Table 9: Range and mean ratings of total positive support on the Social Support Questionnaire for participants.

In order to investigate any association between the Parental Stress Index-Short Form and the social strain rating of the Social Support Questionnaire, a further Pearson's product moment correlation was carried out. A significant positive correlation was found between these scores ($r = 0.733$, $N = 44$, $p = <0.01$, one-tailed) suggesting that higher scores on parental stress are associated with higher ratings of social strain. A large effect was indicated by an effect size of 0.733.

The range and mean of participants' ratings of social strain on the Social Support Questionnaire are represented in table 10.

Minimum (raw score)	Maximum (raw score)	Mean (raw score)
0	3.6	1.7

Table 10: Range and mean ratings of social strain on the Social Support Questionnaire for participants.

A Pearson's product-moment correlation was carried out between the Parental Stress Index-Short Form and the total perceived support score (combination of actual emotional and actual practical support) from the Significant Others Scale, which indicated a significant and negative association between these measures ($r = -0.441$, $N = 44$, $p = 0.002$, one-tailed) suggesting that higher scores on level of parental stress are associated with perceived social support. An effect size of 0.441 was found indicating between a medium to large effect.

A significant positive association was demonstrated between the Parental Stress Index – Short Form and the total discrepancy score from the Significant Others Scale (combination of the emotional support discrepancy and the practical support discrepancy) using a Pearson's correlation ($r = 0.450$, $N = 41$, $p = 0.002$, one-tailed) suggesting that higher scores on levels of parental stress are associated with higher discrepancy scores between actual and desired levels of social support. An effect size of 0.450 has been found indicating between a medium to large effect.

A significant negative association was found between the perceived total support scores of the SSQ and the perceived discrepancy of support scores of the SOS ($r = -0.740$, $N = 41$, $p = <0.001$) suggesting that higher scores on perceived social support are associated with lower scores for the discrepancy between desired and actual social support. A large effect is indicated by an effect size of 0.740.

The range and mean ratings of emotional support for participants are presented in table 11.

Actual Emotional			Ideal Emotional			Discrepancy		
Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
2.2	7	5.4	4.2	7	6.2	-0.4	2.8	0.9

Table 11: Range and mean ratings for actual, ideal and discrepancy of emotional support from SOS for participants.

The range and mean ratings of practical support for participants are presented in table 12.

Actual Practical			Ideal Practical			Discrepancy		
Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
2.5	7	4.6	3.4	7	5.5	-0.8	2.8	1

Table 12: Range and mean ratings for actual, ideal, and discrepancy of practical support on the SOS for participants.

1b. The number of social supports that an individual has will not be indicative of their overall perceived level of social support.

A Pearson's product-moment correlation was carried out to investigate any association between the number of social supports available to an individual and their total perceived level of support as measure by the SOS. A significant association was not found between these two factors ($r = 0.042$, $N = 44$, $p = 0.393$, ns). Similarly, no significant association was found between the total number of supports available to an individual and their perceived support discrepancy, as indicated by the Pearson's correlation, $r = 0.054$, $N = 41$, $p = 0.368$, ns).

The range and mean number of supports, as measured by the Social Support Questionnaire, for participants are presented in table 13.

Number of Supports		
Minimum	**Maximum**	**Mean**
2	6	4

Table 13: Range and mean number of supports for participants.

3.4 Hypothesis 2: Higher levels of perceived child difficulty will be associated with higher levels of parental stress.

2a. Parents reporting higher levels of perceived child difficulty will report higher levels of parental stress while parents who report lower levels of perceived child difficulty will report lower levels of parental stress.

A Pearson's product-moment correlation was carried out to investigate any association between the total score of the Parental Stress Index-Short Form and the overall distress score of the Strengths and Difficulties Questionnaire. A significant positive correlation was found between these scores ($r = 0.665$, $N = 43$, $p = <0.01$, one-tailed) suggesting that higher scores for parental stress are associated with higher scores on level of perceived child difficulty. A large effect was indicated with an effect size of 0.665.

The range and means of participants' total scores on the Strengths and Difficulties Questionnaire are presented in table 14.

Minimum (raw score)	Maximum (raw score)	Mean (raw score)
2	30	15.5

Table 14: Range and mean of total scores on the SDQ for participants.

2b. Participants in the current study will report higher mean total distress scores on the Strengths and Difficulties Questionnaires in comparison to a normative sample.

The mean of the total scores on the SDQ for participants in the current study were compared with the normative sample for this measure (youth*in*mind, 2005, 21 February).

.

The results of the one-sample t-test ($t = 6.462$, $df = 43$, $p<0.001$, one-tailed) indicate a significant difference between the mean total distress score of the current sample and the mean total distress score of the normative sample, showing that the mean for this sample is significantly higher than the normative mean.

Table 15 presents the one-sample t-test results for the sub-scales of the SDQ.

	T-test result (t)	Degrees of freedom (df)	Significance level (p)
Total distress	6.462	43	P = <0.001
Emotional symptoms	2.469	43	P = <0.001
Conduct problems	3.685	43	P = <0.001
Hyperactivity/inattention	6.909	43	P = <0.001
Peer relationship problems	7.225	43	P = <0.001
Prosocial problems	-9.618	43	P = <0.001
Impact	6.860	43	P = <0.001

Table 15: t-test results for SDQ-comparisons of current sample with normative data

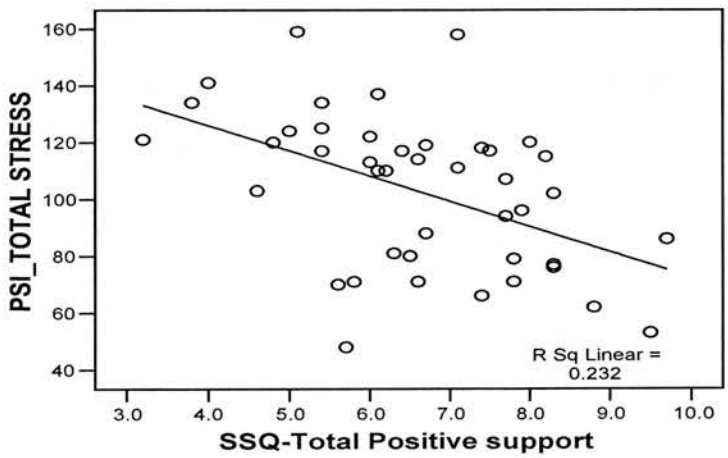
As seen in table 15, the mean of all of the subscales for the current sample were significantly higher than the mean scores of the normative sample.

3.5 Hypothesis 3: Correlational relationships will be found between levels of parental stress, levels of perceived social support and levels of perceived difficulty in the child.

As detailed for hypotheses 1 and 2, both the total distress score of the Strengths and Difficulties Questionnaire (see scattergram 1) and the perceived positive social support score of the Social Support Questionnaire (see scattergram 2) correlate highly with the total score of the Parental Stress Index.

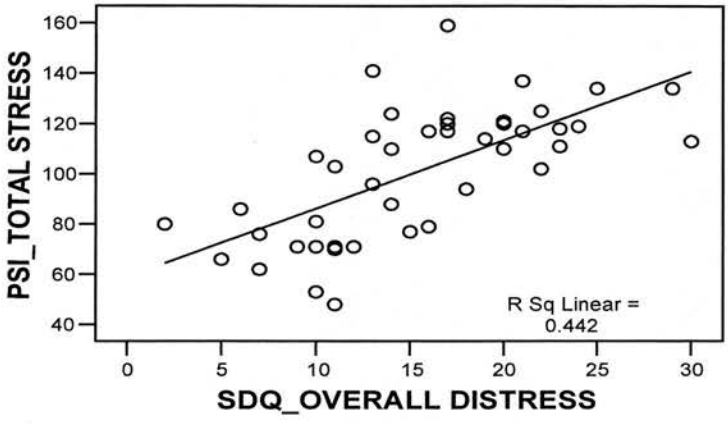
In order to investigate whether both of these factors have an impact on parental stress in their own right, a partial correlation was carried out. This allowed any association between the total score on the Parental Stress Index and the total perceived positive support score of the Social Support Questionnaire to be investigated while controlling for the overall distress score of the Strengths and Difficulties Questionnaire. A significant negative correlation was found between these two scores ($r = -0.436$, $N = 40$, $p = 0.02$, one tailed) which is represented in scattergram 1. Cohen (1988) suggests a useful measure of effect size in correlation which can be derived simply from the correlation coefficient using the following equation:

Effect size (ES) = $r^2 \times 100$. The effect size of 0.190 was obtained which indicates that 19% of the variance in parental stress in this study can be accounted for by perceived level of social support independent of the effect of perceived level of child difficulty.



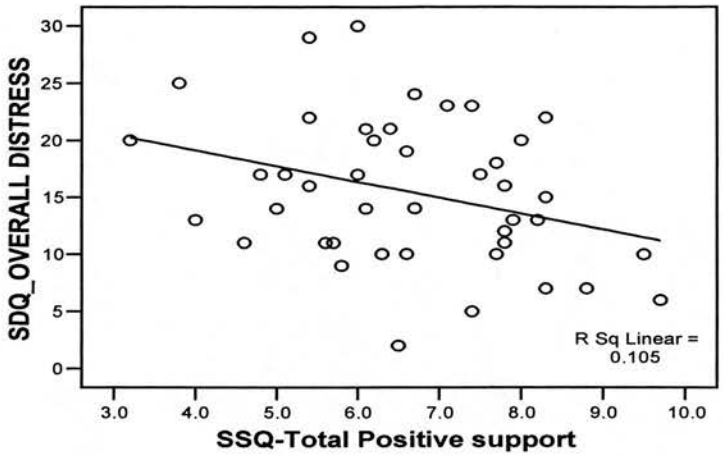
Scattergram 1: Scattergram demonstrating the correlation between the PSI total score and the SSQ total support score.

Scattergram 2 presents the partial correlation (r = 0.614, N = 40, P = <0.001) between the total score of the Parental Stress Index and the total distress score of the Strengths and Difficulties Questionnaire while controlling for the positive support score of the Social Support Scale. An effect size of 0.614, according to Cohen's (1988) suggested equation, indicates that 38% of the variance in parental stress found in this study can be accounted for by the variation in perceived level of child difficulty independent of the effect of perceived social support.



Scattergram 2: Scattergram demonstrating the correlation between the PSI total score and the SDQ overall distress score.

Scattergram 3 shows the correlation (r = 0.038, N = 40, p = 0.451) between the total distress score of the Strengths and Difficulties Questionnaire and the total positive support score of the Social Support Scale while controlling for the total stress score of the Parental Stress Index – Short Form. An effect size of 0.038, according to Cohen (1988), indicates that 1% of the variance in perceived level of child difficulty can be accounted for by the variance in social support independent of the effect of parental stress.



Scattergram 3: Scattergram demonstrating the correlation between the SSQ total perceived positive support score and the SDQ overall distress.

3.6 Hypothesis 4: Higher levels of reported depressive symptomatology will be predictive of higher levels of parental stress in the current sample.

The range and mean total scores on the Beck Depression Inventory – Fast Screen (BDI-FS) are presented in table 16.

Minimum (raw score)	Maximum (raw score)	Mean (raw score)
0	15	4.8

Table 16: Range and mean total raw scores of BDI-FS for participants.

A Pearson's product moment correlation was carried out to investigate any association between the total score of the Parental Stress Index-Short Form and the total score of the BDI-FS. A significant positive correlation was found between these scores ($r = -0.769$, $N = 44$, $p = <0.01$, one-tailed) suggesting that higher scores on parental stress are associated with higher scores for depressive symptomatology. An effect size of 0.769 was found, which according to Cohen (1988) suggests a large effect.

3.7 Further exploratory analysis

A Kruskal-Wallis Test was carried out to investigate whether parental age group would be predictive of scores on any of the measures utilised. As shown in table 17 the results of these analyses indicate no significant differences between the three parental age groups on any of the scores for the measures utilised.

	Chi-Square	Degrees of freedom (df)	Significance (p)
Parental Stress Index-Short Form Total Stress	2.482	2	0.289 (p = >0.05)
Strengths and Difficulties Questionnaire Overall Distress	7.110	2	0.029* (p = <0.05)
Significant Others Scale Number of supports	3.000	2	0.233 (p = >0.05)
Significant Others Scale Total Support	0.174	2	0.917 (p = >0.05)
Significant Others Scale Total Discrepancy	0.252	2	0.882 (p = >0.05)
Beck Depression Inventory-Fastscreen	2.970	2	0.227 (p = >0.05)
Social Support Questionnaire Total positive support	2.165	2	0.330 (p = >0.05)
Social Support Questionnaire Social Strain	1.047	2	0.592 (p = >0.05)

* Significant difference indicated.

Table 17:Results of Kruskal Wallis analyses across parental age groups

Chapter 4: Discussion

It was the intention of this study to investigate associations between levels of parental stress, social support, perceived level of child difficulty and depressive symptomatology in a local population of parents of children with developmental delay. Parental stress was assessed using a self-report measure. Parents also completed two self-report questionnaires which assessed various aspects of social support. A brief screening measure of depressive symptoms was also completed. Finally parents completed a measure which investigated levels of strengths/difficulties in the child from the parental viewpoint.

4.1 Summary of Findings

The main findings of this study were as follows:

- Significant correlations were found between parental stress (as measured by the PSI-SF) and level of perceived social support (as measured by the SOS and SSQ) such that higher levels of parental stress were associated with lower levels of perceived social support.

- There was no association between the number of social supports and the total perceived level of support on the SOS.

- A significant positive relationship was found between parental stress (as measured by the total stress score of the PSI-SF) and perceived level of child difficulty (as measured by the overall distress score of the SDQ).

- The mean of the overall distress score for the current sample was found to be significantly higher than that of the normative sample.

- Partial correlations indicated that parental stress remained significantly negatively correlated with social support when the effect of level of

perceived child difficulty was partialed out. Similarly parental stress remained significantly positively correlated with perceived level of child difficulty when the effect of social support was partialed out. There was no significant correlation between level of child difficulty and perceived social support.

- Parental depressive symptoms (as measured by the BDI) were also found to be significantly associated with parental stress (PSI) such that higher levels of depressive symptomatology were associated with higher levels of parental stress.

The above findings are now discussed in relation to the hypotheses proposed in the introduction, with reference to the literature review. The theoretical and clinical implications are then considered. Finally, the methodology of this study and indications for further research are reviewed.

4.2 Discussion of Hypotheses

1. Perceived levels of social support will be indicative of reported levels of parental stress.

1a. Parents with higher levels of perceived social support will report lower levels of parental stress while parents who report lower levels of perceived social support will report higher levels of parental stress.

The results of this study support the hypothesis that parents with higher levels of perceived social support, as measured by the total positive support score of the SSQ and the total support score of the SOS, do demonstrate lower levels of parental stress, as compared to parents who report lower levels of social support. The significant negative correlation which was found between parental stress and social support is consistent with the view that as social support increases, parental stress decreases. This appears to be explained by the level of perceived social support as opposed to number of supports available. This is also clarified by the significant positive correlation which was found between parental stress and the perceived discrepancy between actual and desired support (as measured by the total discrepancy score of the SOS). This indicates that with a greater discrepancy between the support that parents desire and the actual support they receive then parental stress is higher.

The interaction found between levels of stress and social support is consistent with the stress-buffering hypothesis of social support. As hypothesised by Quittner et al (1990) individuals who have well developed, satisfying social relationships will be protected to a greater extent from the negative impact of stress. The results of the current study concur with this in that parents with higher perceived levels of social support reported lower levels of parental stress whereas parents with lower levels of perceived social support reported higher levels of stress. Lazarus and Folkman (1984) suggested that several mechanisms for such buffering effects had been proposed, including altered appraisals of stressors and the inhibition of maladaptive coping resources. One hypothesis could be that altered appraisals of stressors take place following the assessment process where parents have met with various professionals and perhaps obtained a clearer picture of their child's difficulties. Further research would have to be

carried out to look at this explicitly in order to draw any conclusions and parental interviews would be helpful in investigating this further.

It was also the case that the parents in this study who reported higher levels of social strain also reported higher levels of parental stress than those with lower levels of social strain, who demonstrated less parental stress. The statements relating to social strain included: "some of my friends/acquaintances exploit my helpfulness", "I could live much more freely if I didn't always have to think about my family/friends" and "important people try to control my thoughts and actions". Although social support is generally reported to be a protective factor it cannot be forgotten that for some individuals social support can increase stress. It could be that regular support is seen by some individuals as undermining, as opposed to supportive (see Ghate and Hazel, 2002). This might occur in situations where there is a lack of positive regard between individuals or where there are disagreements about significant areas of family life. Social support may also act as a strain if it is not felt that individuals can be relied upon when most needed. It has been suggested that having a higher level of current problems is associated with wishing for more help 'sometimes' or 'often' (Ghate and Hazel, 2002). However in situations where individuals generally construe offers of help as interference and are generally difficult to befriend then the difficulty is not the availability of support but the inability of the individual to mobilise and draw on that support. Quittner et al (1990) would also add that for long-term stressors such as parenting a 'difficult child', many suggestions are likely to have been made by network members. It is likely that these suggestions have been appreciated initially, however over time these efforts may be viewed as critical and unhelpful.

1b. The number of social supports that an individual reports will not be indicative of their overall perceived level of social support.

The results of the current study support the hypothesis that the number of social supports that a parent has is not indicative of their perceived level of social support. No significant correlation was indicated between these two factors suggesting that parents who have lower numbers of supports do not necessarily experience higher levels of stress and that perceived quality of support might be of more relevance to parental stress

levels. This would concur with White and Hastings (2004) finding that it did not appear to be the number of informal supports that the individual had that was adaptive for parents in their sample. They found in fact that it was the perception of the helpfulness of the informal sources of support that had the most consistent association with parental well-being. Further support for this finding comes from Quittner et al's (1990) study in which mothers of deaf children had far smaller support networks, with substantially fewer sources of support in the domains of family and friends, than their control group. However they reported that there were no differences between the groups with regard to perceived emotional support.

As in Feldman et al's (2002) study, in the current study family members were identified as supports as were friends; however formal supports were not identified as supports (although the measures used in the current study do not specifically tap into formal support). In the current study, for parents with a resident partner, partners or spouses were cited as the supporters, Ghate and Hazel's (2002) study found that partners or spouses were cited as main supports over family members and friends. Ghate and Hazel (2002) also indicated that for single parents their own mother was the most frequent source of support with less than a quarter of single parents naming an ex-partner as a source of support and help. Within the current study close relatives were often cited as supports, however parents were not asked to specify the relationship so it is unclear if these were mothers or other relatives. There was a very small number of single parents in the current sample, therefore any results cannot be generalised to all single parents.

2. <u>Levels of perceived child difficulty will be associated with levels of parental stress.</u>

2a. Parents reporting higher levels of perceived child difficulty will report higher levels of parental stress while parents who report lower levels of child difficulty will report lower levels of parental stress.

The results of the current study support the hypothesis that levels of perceived child difficulty will be associated with levels of parental stress. The significant positive

correlation indicated by the analysis of the current data suggest that parents who perceive a greater level of difficulty in their child also report increased levels of stress.

As discussed in the introduction Baker et al (2003) found that changes in child behaviour problems over a one-year period were associated with increased parental stress. They also found however that parenting stress at 36months and the changes in parenting stress over a one-year period were also associated with an increase in child behaviour problems. This is therefore consistent with the notion that maladaptive child behaviour and parenting stress have a mutually escalating affect on one another. The assumption here is that the parenting environment interacts with the characteristics of the child and also that the child's behaviour can have a critical impact on the parenting environment. Over time this effect may be greater for some individuals than for others, depending upon the protective factors that are present (e.g. parental mental health, social support).

2b. Participants in the current study will report higher mean total distress scores on the Strengths and Difficulties Questionnaires in comparison to a normative sample.

The results of this study show that in comparison to the normative sample, for the Strengths and Difficulties Questionnaire, the current sample reported significantly higher levels of difficulty in their child. This result is to be expected as the children of the participants in the current study had been identified as having some kind of disability. This supports the findings of Hastings and Beck (2004) who reported that parents of children with intellectual disabilities are at increased risk of stress and other mental health problems.

Baker et al (2002) reported that mothers and fathers of children with developmental delays reported greater negative impact of the child on the family as compared to parents of children without delays. Parents of children with developmental delays expressed positive emotions similar to those of parents of children without developmental delays, but they also acknowledge more negative ones. Baker et al (2002) also found that the association between child delay and parental stress related

much more to behavioural problems then to intellectual delay. Many parents in the current sample reported both cognitive and developmental delays as well as behaviour problems as being the main areas of difficulties in their child. It is likely that the relationship found between parental stress and child difficulty in the current study is also due, in part, to high levels of behavioural problems in the child attending Raeden. This would however have to be tested empirically.

Baker et al (2002) also found that parents of children with delays reported higher total scores on the Child Behaviour Checklist than parents of children without delays, and that children with delays were three to four times more likely to have a total score within the clinical range. They anticipated that for children with delays, there may be a tendency for behavioural problems, especially externalising ones, to increase over time with increasing cognitive and social demands, resulting in an even greater differentiation of the two groups of children. It is possible that some of the parents sampled had begun to notice such changes in their child, and this may have been what prompted them to seek help initially.

When considering these results it is therefore important to consider not only the impact that the child's difficulties are having on parental stress but also which factors of the parent may be impacting on the child and maintaining those behavioural problems. It must also be considered that parental report measures of level of child difficulty were used in the current studies and therefore caution must be taken in accepting these results as fact. In saying this, having an idea of the parental perception of the child is important as this will obviously impact on the parent's level of stress and perhaps how they respond to the child. For example if the parent feels that the child is being 'difficult' and their stress levels are increasing then they may be more likely to use negative controlling behaviours and spanking (Gecas, 1979).

3. **Correlational relationships will be found between levels of parental stress, levels of perceived social support and levels of perceived difficulty in the child.**

The results of this study indicate that levels of parental stress interact with both levels of perceived social support and levels of perceived difficulty in the child. The results also

indicate that perceived level of child difficulty is the best predictor of parental stress with 38% of the variance in parental stress being accounted for by perceived level of child difficulty in this sample. This posed the question as to whether level of social support is associated with parental stress in it's own right or whether it acts as a mediating influence upon perceived level of child difficulty which then influences parental stress. A partial correlation controlling for level of child difficulty indicated that social support did have a direct association with parental stress although this was a weaker association than that between parental stress and perceived level of child difficulty. In relation to social support, 19% of the variance in parental stress in this sample could be accounted for by this factor, independent of perceived level of child difficulty.

These results support Ghate and Hazel's (2002) finding that having a 'difficult child' was strongly related to feeling unsupported and having a pre-school child in the household was strongly associated with the desire for more help. Hatton and Emerson (2003) also reported that parents of children with learning disabilities experienced relatively high levels of distress as compared to parents of children without disabilities. It has been reported that parents of children with intellectual disabilities are not only at increased risk of stress but are also at an increased risk of other mental health problems (Hastings and Beck, 2004).

A correlation carried out between levels of social support and levels of perceived child difficulty indicated that a positive correlation exists between these two factors. However a partial correlation carried out on these factors while controlling for parental stress showed a non-significant correlation. This indicates that parental stress is in fact responsible for this effect, suggesting that parental stress is acting as a mediator between social support and perceived level of child difficulty. For example, a parent perceiving a high level of difficulty in their child is likely to experience increased stress, this increased stress could then lead to lower reported satisfaction with social support. This lower reported satisfaction with social support might be due to network members avoiding contact with individuals experiencing increased stressful events or due to them responding inappropriately at this time. However we can only speculate on causality and this would have to be tested empirically.

This hypothesis is consistent with the findings of Quittner, Glueckauf, and Jackson's (1990) findings that mothers of hearing impaired children experienced higher levels of stress in their parenting role than did a control group. This study also found that mothers in the clinical group (mothers of hearing impaired children) also reported that their children were more distractible, moody and demanding than controls, and also reported higher levels of anxiety and anger. Quittner et al (1990) reported finding no support for the buffering model of social support. It has been suggested that social support serves as a decisive preventive role in reducing negative responses to life crisis and stress (Dunst, Trivette and Cross, 1986).

4. **Higher levels of reported depressive symptomatology will be predictive of higher levels of parental stress in the current sample.**

A significant positive correlation was found between parental stress and reported levels of depressive symptomatology. This suggests that parents who report higher levels of parental stress also report higher levels of depressive symptomatology. It has been suggested by the literature that detrimental effects of maternal depression specifically emerge by the time an infant is one-year-old and that a diagnosis of depression may be useful in making predictions about some aspects of parenting behaviour and about mothers' parenting style. The aim of this study was not to identify parents with or without depression specifically, however given the findings of the previously discussed literature it is important to bear in mind that depressed individuals can develop more negative attitudes about their own parenting ability, and about their children's behaviour. It could be hypothesised that parents who continue to have non reinforcing experiences with their children may experience increasing depressive symptoms which may result in their child developing more serious behaviour problems.

Webster-Stratton and Hammond (1988) found that the depressed mothers in their study perceived their children to be more behaviourally disturbed than either the non-depressed mothers or their husbands. Home observations indicated no differences between the depressed and nondepressed mothers' behaviour except for a strong trend for depressed mothers to exhibit more critical statements and to report more daily spankings. Children's interactions with depressed mothers were not observed to be

more deviant or noncompliant than the children's interactions with nondepressed mothers. Independent teacher reports were completed as part of the study which suggested that the children of depressed mothers were actually significantly less deviant than children of nondepressed mothers.

4.3 Theoretical and Clinical Implications

It is important to continue to study factors which can lead to an increase or reduction in parental stress, in an attempt to provide guidance on managing the mediating factors of parental stress. As Quittner et al (1990) reported high levels of parental stress can have a cumulative effect over time. In investigating parental stress it is important to look at both aspects of the child which may contribute to stress in the parent as well as aspects of the parents functioning which may contribute to their own stress. It may be that in order for interventions aimed at reducing parental stress to be successful, that they will need to include the development of the parents understanding of this relationship.

Some tentative implications can be discussed from the results of this study. Some of these relate to clinicians working with parents of children with difficulties, such as developmental delay or severe behaviour problems, as in this study. The current study supports the implication discussed in much of the literature with relates to the careful consideration of the parents' psychological well-being. The need for the careful assessment and monitoring of any depressive symptoms of parents with children who experience a variety of difficulties is important. While an increased level of depressive symptomology may suggest that the parent could be reporting their child to have greater behavioural problems than would be judged by others, it also serves as an important "signal" to alert one to the fact that this parent is highly stressed about their parenting role and their relationship with their child. As LeCuyer-Maus (2003) pointed out, factors relating to maternal mental health (as well as maternal difficult life circumstances, parenting stress and maternal education) and maternal experiences in their family of origin may prove useful in identifying characteristics that influence parenting and interventions in high-risk mothers with small children. It would therefore seem that taking a detailed history with regard to both the child and the parents should be considered a priority when working with families who may be exposed to risk factors for parental stress.

The current study also supports the implication discussed in much of the literature that it is important to assess the support available to parents as level of social support influences level of parental stress. The current study could not make any meaningful comparisons between mothers and fathers due to a small sample size of fathers however

paternal involvement has been discussed. Deater-Decker and Scarr (1996) found that fathers of school age children with disabilities experienced as much stress as mothers in relation to their child's disabilities. This indicates that fathers require as much support as mothers, in a way that suits their particular needs. As has been discussed mothers have reported finding it beneficial to have contact with other parents who have children with similar difficulties. It has to be considered whether mothers and fathers require different kinds of support.

As previously discussed parents of children with disabilities are at higher risk of parental stress and other types of psychological difficulties. It is therefore important to bear in mind other risk factors which may be having a cumulative effect. It has already been discussed at length that it is important in working with parents of children with disabilities to consider what supports they have available as part of the assessment process. Socially unsupported parents have been found to become isolated, at least in part, due to their own negative attitudes to support, which in turn has been shaped by their personality and temperament (Ghate and Hazel, 2002). Polensky et al (1981) also suggested that parents with multiple psycho-social problems were temperamentally disadvantaged by an inability to engage in reciprocal exchanges of support.

Ideally once a thorough assessment is completed, then where necessary an intervention program should be planned that includes not only parent training but also treatment for depression, modification of negative cognitions, attachment difficulties and stress reduction where required. Indeed studies have already shown that when parent training alone is offered, depressed parents are more likely to drop out or relapse at follow-up (McMahon, Forehand, Griest and Wells, 1981). More research is needed where parent training is integrated with other therapeutic approaches that take into account the families' social system context, environmental stressors, and personal adjustment factors.

With particular regard to the assessment process at Raeden, the main aim is to assess the child's difficulties and to inform the parents and professionals in order that an appropriate care plan can be implemented where required. The finding in this study that for this population of parents parental stress is associated with social support, is in support of the literature previously discussed and would suggest that for many of the

parents, levels of parental stress should be measured and monitored in some way and that where required or desired, relevant supports should be put in place. As we know mothers find it helpful to meet other parents experiencing similar difficulties. It may therefore be that support groups would help the parents in this population get the social support that they needed.

With regard to the children, it has been found that children with delays were most different from their peers without delays on social withdrawal and attention problems (Baker et al, 2002). It was therefore hypothesised by Baker et al (2002) that as children with delays grow older, their social domain may take on added importance as a moderator of other types of problems. So for example, children with poor social interaction skills may be particularly at risk for problems with anxiety, depression or aggression because social demands become more complex as children with delays become more aware of their differences and as peers become more rejecting. It may therefore be important to advise parents as to how they can help their child develop their social skills and also to deal with rejection from peers. It is possible that parental stress would decrease if they taught their children these skills, but this hypothesis remains to be tested empirically. Obviously there is the potential for parental stress to increase in these circumstances as their child's behaviour becomes more difficult as a result of possible anxiety, depression, or aggression. Lang et al (2001) also supported this finding in reporting that among non-aggressive pre-schoolers, poor social skills predicted those who subsequently became aggressive by third grade.

4.4 Limitations of Study

4.4.1 Generalisability

The current study involved the recruitment of a very specific sample and therefore the results must be treated with caution and the study replicated to provide more concrete results. As with many studies, it is difficult to ascertain if the sample is representative of the population being examined. For example, the participants who responded to the study were predominantly female and therefore any results cannot be generalised to fathers of children with disabilities. The participants may not have been representative of mothers who have children with difficulties either as they were all taken from one assessment unit in Aberdeen.

4.4.2 Confounding Factors

In addition, there are potentially a number of confounding variables with reference to the sample utilised, which means that making firm conclusions is difficult. No measure was taken of any previous input to the family from professionals, which may have had some effect on the parents' levels of stress throughout the assessment process. It may have been appropriate to investigate whether any previous input from professionals had been positive or negative for parents, as this may also have had an effect on their level of stress with regard to the assessment process. This may also have had some influence on their attitudes towards professionals and their ability to engage with staff and professionals during the assessment week. However, including further questionnaires may have resulted in fewer participants completing the questionnaire package and the hypotheses of the current study were to investigate informal social support as opposed to formal support specifically.

4.4.3 Design Limitations

A limitation of this study may be that all measures utilised were self-report measures and parents, mainly mothers, completed all measures. There may therefore have been a high level of subjectivity and response bias within the results. This study could have been improved by including ratings of the child's difficulties from a second source, for example a nursery teacher or staff on the assessment unit, in an attempt to get a more objective view of the child's difficulties. As reported by Webster-Stratton and Hammond (1988) a mother who is experiencing depressive symptoms can perceive their

child's behaviour as being more difficult than they actually are, or would appear to be to others. While the hypotheses of this study was focussed on perceived child difficulty, it may have been useful to include reports from another source in order to determine the differential effects of perceived and actual difficulty on parental stress.

In terms of the statistical analyses carried out in this study, the extent to which any conclusions can be drawn from the data is limited by the correlational and cross-sectional nature of the design. Firstly, the correlational nature of the design means that causality of any of the relationships found between the variables can only be inferred. Secondly, the cross-sectional nature of the design means that parental stress was measured at one point in time only, therefore no conclusions can be drawn with regard to how stress levels may change over time. A follow-up study could be carried out to investigate whether levels of parental stress are maintained or whether changes occur over time.

The relatively low sample size in this study also affected the choice of statistical analysis which could be carried out. In particular, it may have been useful to use multiple regression to examine the variables which may have predicted the level of parental stress. However, for multiple regression to be reliable, Tabachnick and Fidell (1996) suggest that as a rule of thumb, the number of participants should equal 50 plus 8m, where m is the number of predictor variables. In the current study therefore, at least 66 participants would have been required with two predictor variables. While multiple regression would have been interesting to carry out, this study only aimed to investigate the relationships between three variables, therefore partial correlations were considered to be sufficient. No particular problems were encountered in recruiting participants which suggests that an extension to the period of data collection would hopefully allow a sufficient sample size to be obtained for the purposes of undertaking multiple regression.

4.5 Future Research

Quittner et al (1990) reported that the mothers of the deaf children in their sample relied more heavily on health care professionals than family and friends to meet their emotional needs. While it was not the aim of the current study to examine perceived support from formal services and how this may have impacted on parental stress, this may have been an additionally relevant area to investigate, given that the children were being assessed by a multi-professional team who often continue to have input with the child. It would be of interest to investigate how parents viewed support from services prior to the multi-professional assessment of their child and how this may have changed over time. It would also be interesting to investigate any change in perception of formal support in relation to how parents feel about the assessment week at Raeden and the outcomes achieved. It could be hypothesised that parents who are in agreement with the professionals' opinions are likely to view their formal support as more appropriately meeting their needs and that these parents are more likely to have lower levels of parental stress. As reported by Ghate and Hazel (2002), parents' satisfaction with services depended substantially upon whether the professionals involved made them feel respected as adults and treated their concerns as legitimate. It would therefore be interesting to investigate whether parents attending the Raeden Assessment Unit feel that their concerns have been treated as legitimate and how this also relates to levels of parental stress.

Future research testing the effectiveness of specific support resources in response to specific stressors would help clarify the operative mechanisms. With reference to the buffering model of stress the question "does buffering depend on a match between the needs elicited by particular stressful events and the social resources perceived to be available to the individual" could be asked. For example, would a threat to self-esteem, like exam failure, be best buffered by esteem support? Or would loss of income be best buffered by material aid? Or is it possible that any form of social support would act as a buffer in these situations, but perhaps to differing degrees?

The current study indicated no difference between perceived level of stress and the number of supports available. Therefore it would be interesting to consider in more detail whether the positive effects of social support derive primarily from one (or few)

close relationships. The possibility that one relationship is sufficient in influencing levels of parental stress is implied by the highly consistent findings of buffering effects with confidant measures, which in many cases are based on single relationships, and by the fact that measures attempting to index the existence of close or friendly relationships typically show buffering effects (Cohen and Wills, 1985). Future research could be designed to provide estimates of the variance in well-being accounted for by each of the few most supportive relationships in a person's life. It would be interesting to investigate how this research would tie in with the result of the current study which suggests that it is not the number of actual supports that is important but in fact it is the perceived helpfulness of this support which acts to reduce parental stress.

How an individual views and deals with his or her social environment has a great deal to do with what it provides. Sarason, Sarason and Shearin, (1986) suggested that future research into social support should include personality variables within the design. In considering this we could ask whether those who are low in social support need to be helped more by means of strengthening their relational skills as opposed to just providing more social support. The affect on parenting and children would also be of great importance in this type of investigation.

The current study could have been improved by conducting qualitative interviews with parents to investigate how they are attributing their levels of stress in relation to social support and level of child difficulty. It would also have been interesting to investigate any changes in parents' ratings on the measures at different time periods. For example, it may have been interesting to investigate parents' perceptions prior to the assessment of their child and then to compare this with the same measures at a later stage. This would have allowed a longitudinal look at these factors which could have indicated any changes which may take place in levels of parental stress. For example, as reported by Baker et al (2002) maladaptive child behaviour and parenting stress have a mutually escalating affect on one another.

Observations of parents with their children would be more objective and would perhaps give a better indication of patterns of interaction and may indicate differences between mothers and fathers. Considering other factors not discussed in this study (e.g. motivation) would give a more thorough understanding of parental stress. Measures of

physical disability and physical health problems were not included in this study and therefore we do not know the effect of these on stress for parents.

In relation to parents whose children are attending Raeden specifically, it would be interesting to investigate how parents use services following their child's assessment and how this compares to other samples. For example, would the results concur with Ghate and Hazel's (2002) finding that once in contact with services parents tend to make extensive use of them? It would also be interesting to consider which characteristics were common in parents who utilised services, for example they might be parents who had a high level of current problems or a high number of children as opposed to parents who did not utilise services. Furthermore it would be interesting to investigate differences between parents who do benefit from added support and those who see it as a strain. This suggests that a further limitation of the current study could be that there was no comparison group or control group.

A further consideration discussed in the current literature would be to consider making the most of natural resources such as grandparents, in the face of limited resources. Although it has been suggested that grandparent support can increase stress in some cases, in this study, it was found that the majority of individuals cited a family member, particularly their mother as a main support. It may therefore be that for this population of parents of children with developmental delay, it is important to investigate this further. For example, by comparing this population to a population where the children have different kinds of difficulties, it may be possible to identify the specific parental supports which are most useful in different kinds of child difficulties. Also, given that we have seen that it is the perceived quality of support that is the important factor as opposed to the number of supports available, it would seem that adding additional supports may not be the most appropriate way of giving parents the support they need.

4.6 Conclusion

The results of the current study concur with White and Hastings (2004) finding that it did not appear to be the number of informal supports that the individual had that was adaptive for parents. Instead, it was the perception of the helpfulness of the sources of support that had the most consistent association with parental well-being. Parents with higher levels of social support, in terms of perceived support, reported lower levels of parental stress. This has implications for professionals working with families experiencing the risk factors for high parental stress, in that it may be important to consider a family's available support and the quality of that support, as important factors during the assessment and intervention process.

Levels of perceived child difficulty were found to be the best predictor of parental stress in the current study. This result is consistent with much of the literature, which has shown that parents of children with delays or learning disabilities experience higher levels of parental stress compared to parents of children without these difficulties. Although parents of children with disabilities show positive emotions, similarly to parents of children without disabilities, they also show higher levels of negative emotions. It was also reported by Baker et al (2003) that parents of children with delays reported greater negative impact on the family as compared to parents of children without delays. When considering the results of this study it is important to consider not only the impact that the child's difficulties are having on parental stress but also which factors of the parent may be impacting on the child and maintaining those behaviours.

Although risk factors for parental stress have a cumulative effect, this study confirmed that both social support and level of child difficulty have an impact on parental stress as individual factors.

This study has added to the literature on parental stress specifically in relation to social support and child difficulties. As discussed there is great scope for future research in this area, including investigating the impact of formal supports specifically, on parental stress in this group.

References

Abidin, R. (1990). Introduction to the special issue: The stresses of parenting. *Journal of Clinical Child Psychology, 19(4),* 298-301.

Abidin, R. (1995). *The Parenting Stress Index (short form).* Psychological Assessment Resources, Inc.

Abidin, R. (Ed) (1995). *The Parenting Stress Index – Professional Manual 3rd Edition.* Psychological Assessment Resources, Inc.

Achenbach, T. M., and Edelbrock, C. S. (1983). Manual for the Child Behaviour Checklist and Revised Child Behaviour Profile. Burlington, Vermont: University Associates in Psychiatry. Cited in Webster-Stratton, C. and Hammond, M. (1988). Maternal depression and its relationship to life stress, perceptions of child behaviour problems, parenting behaviour and child conduct problems. *Journal of Abnormal Child Psychology, 16 (3),* 299-315.

American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders, (4th ed).* Washington, DC: Author.

Bailey, D.B.; Blasco, P.M., and Simeonsson, R.J. (1992). Needs expressed by mothers and fathers of young children with disabilities. *American Journal on Mental Retardation, 97 (1),* 1-10.

Bailey, D.B. and Simeonsson, R.J. (1988). Assessing needs of families with handicapped infants. *Journal of Special Education, 22,* 117-127.

Baker, L.B.; Blacher, J.; Crnic, A. and Edelbrock, C. (2002). Behaviour Problems and Parenting Stress in Families of Three-Year-Old Children With and Without Developmental Delays. *American Journal on Mental Retardation, 107, (6),* 433-444.

Baker, B. L.; McIntyre, L. L.; Blacher, J.; Crnic, K.; Edelbrock, C. and Low, C. (2003). Pre-school children with and without developmental delay: behaviour problems and

parenting stress over time. *Journal of Intellectual Disabilities Research, 47(4-5),* 217-230.

Beck, A.T.; Steer, R.A, (1978b) Beck Depression Inventory Manual (1990 Ed.) As cited in Beck, A.T.; Steer, R.A.; and Brown, G.K. (2002). *Beck Depression Inventory – Fast Screen Manual.* San Antonio, TX: The Psychological Corporation.

Beck, A.T.; Steer, R.A.; and Brown, G.K. (1996). *Beck Depression Inventory – II Manual (2nd ed.).* San Antonio, TX: The Psychological Corporation.

Beck, A.T.; Guth, D.; Steer, R.A. and Ball, R. (1997a). Screening for major depression disorders in medical inpatients with the Beck depression Inventory for Primary Care. *Behaviour Research and Therapy, 35,* 785-791.

Beck, A.T. (2000). *Beck Depression Inventory – Fast Screen.* San Antonio, TX: The Psychological Corporation.

Beck, A.T.; Steer, R.A.; and Brown, G.K. (2002). *Beck Depression Inventory – Fast Screen Manual.* San Antonio, TX: The Psychological Corporation.

Beck, A.; Daley, D.; Hastings, R.P. and Stevenson, J. (2004). Mothers' expressed emotion towards children with and without intellectual disabilities. *Journal of Intellectual Disability Research, 48(7),* 628-638.

Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55,* 83-96.

Benzies, K.M.; Harrison, M.J. and Magill-Evans, J.O.T. (2004). Parenting stress, marital quality and child behaviour problems at age 7. *Public Health Nursing, 21(2),* 111-121.

Beresford, B.A. (1993). Resources and strategies: How parents cope with the care of a disabled child. *Journal of Child Psychology and Psychiatry, 35(1),* 171-209.

Bristol, M.M.; Gallagher, J.J. and Schopler, E. (1988). Mothers and fathers of young developmentally disabled and nondisabled boys: Adaptation and spousal support. *Developmental Psychology, 24(3),* 441-451.

Bugental, D.B.; Blue, J. and Cruzcosa, M. (1989). Perceived control over caregiving outcomes: implications for child abuse. *Developmental Psychology, 25(4),* 532-539.

Chadwick, O.; Piroth, N.; Walker, J.; Bernard, S. and Taylor, E. (2000). Factors affecting the risk of behaviour problems in children with severe intellectual disability. *Journal of Intellectual Disabilities Research, 44(2),* 108-123.

Clark-Carter, D. (1997). *Doing Quantitative Psychological Research: From Design to Report.* Psychology Press Ltd.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences.* San Diego, CA: Academic Press.

Cohen, J. (1992). A Power Primer. *Psychological Bulletin, 112,* 155-159.

Cohen, S. and Wills, T.A. (1985). Stress, Social Support, and the Buffering Hypothesis. *Psychological Bulletin, 98(2),* 310-357.

Coyne, J.C. and DeLongis, A. (1986). Going beyond social support: The role of social relationships in adaptation. *Journal of Consulting and Clinical Psychology, 54(4),* 454-460.

Deater-Deckard, K. (2004). *Parenting Stress.* Yale University Press

Deater-Deckard, K. and Scarr, S. (1996). Parenting stress among dual-earner mothers and fathers: Are there gender differences? *Journal of Family Psychology, 10(1),* 45-59.

Donenberg, G.; and Baker, B.L. (1993). The impact of young children with externalizing behaviors on their families. *Journal of Abnormal Child Psychology, 26,* 99-107.

Dunst, C.J.; Trivette, C.M. and Cross, A.H. (1986). Mediating influences of social support: Personal, family and child outcomes. *American Association on Mental Deficiency, 90(4),* 403-417.

Duvdevany, I. and Abboud, S. (2003). Stress, social support and well-being of Arab mothers of children with intellectual disability who are served by welfare services in northern Israel. *Journal of Intellectual Disability Research, 47(4-5),* 264-272.

Dyson, L. L. (1997). Fathers and mothers of school-age children with developmental disabilities: parental stress, family functioning and social support. *American Journal on Mental Retardation, 102(3),* 267-279.

Elander, J. & Rutter, M. (1996). Use and development of the Rutter Parents' and Teachers' Scales. *International Journal of Methods in Psychiatric Research, 6,* 63-78.

Esdaile, S.A. and Greenwood, K.M. (2003). A comparison of mothers' and fathers' experience of parenting stress and attributions for parent-child interaction outcomes. *Occupational Therapy International, 10(2),* 115-126.

Feldman, M.A.; Vargnese, J.; Ramsay, J. and Rajska, D. (2002). Relationships between social support, stress and mother-child interactions in mothers with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 15(4),* 314-323.

Folkman, S. and Lazarus, R. S. (1988). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54(3),* 466-475.

Freidrich, W.N.; Greenberg, M.T. and Crinc, K. (1983). A short form of the Questionnaire on Resources and Stress. *American Journal of Mental Deficiency, 88,* 41-48.

Friedrich, W.N.; Wilturner, L.T. and Cohen, D.S. (1985). Coping resources and parenting mentally retarded children. *American Journal of Mental Deficiency, 96(2),* 130- 139.

Fudge, E.; Falkov, A.; Kowalenko, N. and Robinson, P. (2004). Parenting is a mental health issue. *Australian Psychiatry, 12(2),* 166-171.

Gecas, V. (1979). The influence of social class on socialization. In W.R. Burr, R. Hill, F.I. Nye and I.L. Russ (eds.) *Contemporary theories about the family* (Vol. 1, pp. 365-404). New York: Fiel Press.

Ghate, D. and Hazel, N. (2002). *Parenting in poor environments : stress support and coping.* JKP

Goodman, R. (1997). The Strengths and Difficulties Questionnaire : A Research Note. *Journal of Child Psychology and Psychiatry, 38(5),* 581-586.

Goodman, R. (1999). The Extended Version of the Strengths and Difficulties Questionnaire as a Guide to Child Psychiatric Caseness and Consequent Burden. *Journal of Child Psychology and Psychiatry, 40(5),* 791-799.

Hall, L.A. and Farel, A.M. (1988). Maternal stresses and depressive symptoms: correlates of behaviour problems in young children. *Nursing Research, 37(3),* 156-161.

Hall, S. (1996). An exploration of parental perception of the nature and level of support needed to care for their child with special needs. *Journal of Advanced Nursing, 24(3),* 512-521.

Hanson, M.J. and Hanline, M.F. (1990). Parenting a child with a disability: A longitudinal study of parental stress and adaptation. Journal of Early Intervention, 14(3), 234-248. Lam, D.; Giles, A. and Lavander, A. (2003). Carers' expressed emotion, appraisal of behavioural problems and stress in children attending schools for learning disabilities. *Journal of Intellectual Disability Research, 47(6),* 456-463.

Harrison, C. and Sofronoff, K. (2002). ADHD and parental distress: role of demographics, child behavioural characteristics and parental cognitions. *Journal of American Academy of Child and Adolescent Psychiatry, 41(6),* 703-711.

Hastings, R.P. and Taunt, H.M. (2002). Positive perceptions in families of children with developmental disabilities. *American Journal on Mental Retardation, 107,* 116-127.

Hastings, R.P.; Allen, R.; McDermott, K. and Still, D. (2002). Factors related to positive perceptions in mothers of children with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 15(3),* 269-275.

Hastings, R.P and Beck, A. (2004). Practitioner Review: Stress intervention for parents of children with intellectual disabilities. *Journal of Child Psychology and Psychiatry, 45(8),* 1338-1349.

Hatton, C. and Emerson, E. (2003). Families With a Person With Intellectual Disabilities: Stress and Impact. *Current Opinion In Psychiatry, 16(5),* 497-501.

Hauser-Cram, P.; Warfield, M. E.; Shonkoff, J. P. and Kraus, M. W. (2001). Children with disabilities: a longitudinal study of child development and parent well-being. Society for Research in Child Development Monographs, 66, 1-131. Cited in Baker, B. L.; McIntyre, L. L.; Blacher, J.; Crnic, K.; Edelbrock, C. and Low, C. (2003). Pre-school children with and without developmental delay: behaviour problems and parenting stress over time. *Journal of Intellectual Disabilities Research, 47(4-5),* 217-230.

Hemenover, S.H. (2001). Self-report processing bias and naturally occurring mood: mediators between personality and stress appraisals. *Personality and Social Psychology Bulletin, 27,* 387-394.

Holahan, C.J. and Moos, R.H. (1987). Risk, Resistance, and Psychological Distress: A Longitudinal Analysis With Adults and Children. *Journal of Abnormal Psychology, 96(1),* 3-13.

Keller, D. and Honig, A.S. (2004). Maternal and paternal stress in families with school-aged children with disabilities. *American Journal of Orthopsychiatry, 74(3),* 337-348.

Koeske, G. F. and Koeske, R. D. (1990). The buffering effect of social support on parental stress. *American Journal of Orthopsychiatry, 60(3),* 440-451.

Kopp, C.B.; Baker, B.L. and Brown, K.W. (1992). Social skills and their correlates: Preschoolers with developmental delays. *American Journal of Mental Retardation, 96,* 357-366.

Krantz, D.S.; Grunberg, N.E. and Baum, A. (1985). Health Psychology. *Annual Review of Psychology, 36,* 349-383.

Lam, D.; Giles, A. and Lavander, A. (2003). Carers' expressed emotion, appraisal of behavioural problems and stress in children attending schools for learning disabilities. *Journal of Intellectual Disability Research, 47(6),* 456-463.

Lang, J.M.; Baker, B.L.; and Henker, B. (2001). *Predicting aggression and disruptive behaviour disorder diagnoses: The role of early social functioning.* Unpublished manuscript, University of California, Los Angeles. As cited in Baker, L.B.; Blacher, J.; Crnic, A. and Edelbrock, C. (2002). Behaviour Problems and Parenting Stress in Families of Three-Year-Old Children With and Without Developmental Delays. *American Journal on Mental Retardation, 107, (6),* 433-444.

Lazarus, R.S. and Folkman, S. (1984). *Stress, Appraisal and Coping.* Springer.

LeCuyer-Maus, E. (2003). Stress and Coping in High-Risk Mothers: Difficult Life Circumstances, Psychiatric-Mental Health Symptoms, Education, and Experiences in Their Families of Origin. *Public Health Nursing, 20(2),* 132-145.

Malka, M. (1991). Positive and negative affect in parenting disabled children. *Counselling Psychology Quarterly, 4(4),* 289-311.

Morgan, J.; Robinson, D. and Aldridge, J. (2002). Parenting stress and externalising child behaviour. *Child and Family Social Work, 7(3),* 219-225.

Olsson, M.B. and Hwang, C.P. (2002). Depression in mothers and fathers of children with intellectual disabilities. *Journal of Intellectual Disability Research, 45(6),* 535-543.

Osyerman, D.; Mowbray, C.T.; Meares, P.A. and Firmunger, K.B. (2000). Parenting among mothers with a serious mental illness. *American Journal of Orthopsychiatry, 70(3),* 296-315.

Patterson, G. R. (1982). Coercive Family Process. Eugene, Oregon: Castalia Press. Cited in Webster-Stratton, C. and Hammond, M. (1988). Maternal depression and its relationship to life stress, perceptions of child behaviour problems, parenting behaviour and child conduct problems. *Journal of Abnormal Child Psychology, 16 (3),* 299-315.

Patterson, G.R. (1983). Stress: A change agent for family process. In N. Garmezy and M. Rutter (eds) *Stress, coping and development in children (pp. 235-264).* New York: McGraw Hill.

Pinderhughes, E.E; Dodge, K.A; Bates, J.E.; Petit, G.S. and Zelli, A. (2000). Discipline responses: influences of parents' socio-economic status, ethnicity, beliefs about parenting, stress and cognitive-emotional processes. *Journal of Family Psychology, 14(3),* 380-400.

Polensky, N.A.; Gaudin, J.M.; Ammos, P.W. and Davis, K.B. (1981). 'The psychological ecology of the neglectful mother'. *Child Abuse and Neglect, 9,* 265-275.

Power, M.J.; Champion, L.A. and Aris, S.J. (1988). The Significant Others Scale. In Johnston, M.; Wright, S. and Weinman, J. (eds) (1995). *Measures in Health Psychology : A User's Portfolio.* NFER-NELSON.

Power, M.J.; Champion, L.A. and Aris, S.J. (1988). The development of a measure of social support: The Significant Others (SOS) scale. *British Journal of Clinical Psychology, 27,* 349-358.

Power, M.J. (1988). Stress Buffering Effects of Social Support: A Longitudinal Study. *Motivation and Emotion, 12,* 197-204.

Quittner, A.L.; Glueckauf, R.L. and Jackson, N.J. (1990). Chronic Parenting Stress: Moderating Versus Mediating Effects of Social Support. *Journal of Personality and Social Psychology, 59(6),* 1266-1278.

Roesch, S.C.; Weiner, B. and Vaughn, A.A. (2002). Cognitive approaches to stress and coping. *Current Opinion in Psychiatry, 15(6),* 627-632.

Roggman, L. A.; Moe, S. T.; Hart, A. D. and Forthun, L. F. (1994). Family leisure and social support: Relations with parenting stress and psychological well-being in Head Start parents. *Early Childhood Research Quarterly, 9,* 463-480.

Sarason, I.G.; Sarason, B.R. and Shearin, E.N. (1986). Social support as an individual difference variable: it's stability, origins and relational aspects. *Journal of Personality and Social Psychology, 50(4),* 845-855.

Sarason, I.G.; Levine, H.M.; Basham, R.B. and Sarason, B.R. (1993). Assessing Social Support: The Social Support Questionnaire. *Journal of Personality and Social Psychology, 44,* 127-39.

Salovita, T.; Italinna, M. and Leinonen, E. (2003). Explaining the parental stress of fathers and mothers caring for a child with intellectual disability: a double ABCX model. *Journal of Intellectual Disability Research, 47(4-5),* 300-312.

Schwannauer M (1997). *Social Networks, Social Support and Expressed Emotion Significance of Psychosocial Factors in the Long-Term Community Care of Patients with Schizophrenia and Major Depression.* Thesis, Philis-University, Marburg, Germany.

Smith, M. (2004). Parental mental health: disruptions to parenting and outcomes for children. *Child and Family Social Work, 9(1),* 3-11.

Smith, T.B.; Oliver, M.N. and Innocenti, M.S. (2001). Parenting Stress in Families of Children with Disabilities. *American Journal of Orthopsychiatry, 71(2),* 257-261.

Sommer G & Fydrich T (1991). Entwicklung und Ueberpruefung eines Fragebogens zur sozialen Unterstuetzung. *Diagnostica*, 37 (2), 160-178.

Stoneman, Z.; Brody, G.H. and Burke, M. (1989). Marital Quality, depression, and inconsistent parenting: Relationship with observed mother-child conflict. *American Journal of Orthopsychiatry, 59,* 105-117.

Strauss, M. A. (1980). Stress and Child Abuse. In C. H. Kempe and R. E. Helfer (Eds.) *The battered child. (3rd edition., pp86-103).* Chicago: University of Chicago Press.

Tabachnick, B.G. and Fidell, L.S. (1996). *Using Multivariate Statistics (3rd Edition).* HarperCollins College Publishers.

Tunali, B. and Power, T.G. (2002). Coping by redefinition: Cognitive appraisals in mothers of children with autism and children without autism. *Journal of Autism and Developmental Disorders, 32(1),* 25-34.

Wallerstien, J. S. and Kelly, J. B. (1980). *Surviving the breakup: How children and parents cope with divorce.* New York: Basic Books.

Webster-Stratton, C. and Hammond, M. (1988). Maternal depression and its relationship to life stress, perceptions of child behaviour problems, parenting behaviour and child conduct problems. *Journal of Abnormal Child Psychology, 16 (3),* 299-315.

Webster-Stratton, C. (1990). Stress: A potential disruptor of parent perceptions and family interactions. *Journal of Child Clinical Psychology, 19 (4),* 302-312.

Whipple, E. and Webster-Stratton, C. (1989). The role of parental stress in physically abusive families. Unpublished manuscript. Cited in Webster-Stratton, C. (1990). Stress: A potential disruptor of parent perceptions and family interactions. *Journal of Child Clinical Psychology, 19 (4),* 302-312.

Youth*in*mind (2004, 21 February). *SDQ: Normative SDQ Data from Britain.* Retrieved 18 February 2005 from www.sdqinfo.com/

Wolfner, G.D. and Gelles, R.J. (1993) 'A profile of violence towards children: a national study.' *Child Abuse and Neglect, 17 (2),* 197-212.

Appendix 1: Initial Recruitment Letter

Child and Family Mental Health Service
Royal Aberdeen Children's Hospital
Westburn Road
Aberdeen AB25 2ZG
Telephone Direct Line: 01224 550139 Fax: 01224 550134

NHS Grampian

Dear Parent

The Child and Family Mental Health Service, Royal Aberdeen Children's Hospital, is conducting a research project looking at levels of parental stress in parents of children who are being assessed at Raeden. I wonder if you would like to participate in the project.

I have enclosed some information to help you decide whether or not you would like to take part. If you decide to participate, please sign the enclosed consent form and return it in the enclosed SAE. You will then be sent a number of questionnaires to complete and return at your convenience.

If you do not wish to take part, your child's assessment will not be affected in any way.

If you have any questions please do not hesitate to contact Dawn Adams, Trainee Clinical Psychologist on the above number.

Yours sincerely

Dr Kindley
Consultant Paediatrician and Lead Clinician

Appendix 2: Participant Information Sheets

Information for parents (Group 2)

Title: **Parental stress in relation to confiding, support and child disability.**

Dear parent

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully, to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of this study?: The purpose of this study is to investigate whether levels of social support, confiding and level of child ability are linked to levels of stress in parents. We want to investigate whether stress levels in parents change when their child is assessed for difficulties.

Why have I been chosen?: You have been chosen because your child's difficulties have previously been assessed at the Raeden assessment unit.

Do I have to take part?: If you do agree to participate you can change your mind at any time and withdraw from the study. You are under no obligation to take part.

What will happen to me if I take part?: In taking part in this study you will be asked to complete a number of questionnaires. The questionnaires will ask questions about what makes you feel stressed as a parent and about how much support you have from other people around you. One of the questionnaires will ask questions about what your child is good at and what your child has difficulty with. You will be asked to return the questionnaires in the envelope provided.

What do I have to do?: you will be asked to complete the consent form and send it back. You will then be sent questionnaires to complete and return in the given envelope.

How long will it take?: To complete all the questionnaires will take approximately forty-five minutes.

What are the possible disadvantages and risks in taking part?: no disadvantages or risks are foreseen in taking part in this study. Should anything of concern arise the chief investigator will contact you and suggest that you attend your GP for appropriate advice or referral.

What are the possible benefits of taking part?: This study is part of a research project designed to promote medical knowledge, but may be of no benefit to you personally.

Will my taking part in this study be kept confidential?: All information which is collected about you during the course of the research will be kept strictly confidential. Data collected during this study will be stored securely and it will be destroyed after five years.

What will happen to the results of the study?: The results of the study will be discussed in a research report which will be stored in Edinburgh University library. You will also be sent information about the results of the study. You will not be identified in any report.

The Grampian Research Ethics Committee has reviewed his study.

If you require further information please contact Dawn Adams on 01224 550139

If you wish to participate in this research project, please sign the enclosed consent form and return it in the SAE provided. You can keep this information sheet and you will also receive a copy of your consent form to keep.

Thank you for considering taking part in this study. If you have any questions or wish to discuss any aspect of the study, please do not hesitate to contact us.

Yours sincerely

Dawn Adams
Trainee Clinical Psychologist

Lynn Buntin
Clinical Psychologist

Appendix 3: Consent Form

CONSENT FORM

CONSENT BY PARENT TO PARTICIPATE IN:

A study to investigate whether parent's stress levels change following the assessment of their child's difficulties.

Name of parent.....

I have read the parent information sheet on the above study and have had the opportunity to contact Dawn Adams, Trainee Clinical Psychologist, to discuss the details.

I have agreed to take part in this study as it has been outlined to me, but I understand that I am completely free to withdraw from the study or any part at any time I wish and that this will not affect my continuing treatment in anyway.

I understand that these trials are part of aresearch project designed to promote medical knowledge, which has been approved by the Grampian research Committee, and may be of no benefit to me personally.

I hereby fully and freely consent to participate in the study which is outlined on the enclosed information sheet.

Signature of parent:.....

Date:.....

Thank you.

Appendix 4: Demographic Questionnaire

General information

About you

Age

Sex

Education

Marital Status

Employment

About your child

Age

Sex

Current difficulties

Number of siblings

Ages of siblings

Appendix 5: Ethical Approval

18 FEB 2005

Enclosure 1

NHS Grampian

Grampian Local Research Ethics Committee (1)
Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558474
Facsimile: 01224 558609

Email: irene.allan@ghb.grampian.scot.nhs.uk

17 February 2005

Miss Dawn Adams
Trainee Clinical Psychologist
NHS Grampian
Child and Family Mental Health Service
Royal Aberdeen Children's Hospital
Westburn Road, Aberdeen
AB25 2ZG

Dear Miss Adams

Full title of study: *A study to investigate the relationship between parental stress and social support, confiding and level of child disability in parents of children attending an assessment centre.*
REC reference number: *05/S0802/13*
Protocol number:

Thank you for your letter of, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Management approval

The study may not commence until final approval has been confirmed by the organisation hosting the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

05/S0802/13	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project,

Yours sincerely,

pp.

Dr W Melvin Morrison
Chairman
Grampian Research Ethics Committee

Enclosures *Standard approval conditions*
R & D Dept for host organisation

Appendix 6: The Significant Others Scale

Instructions:
For each person listed below please circle a number from 1 to 7 to show how well he or she provides the type of help that is listed. The second part of each question asks you to rate how you would like things to be if they were exactly as you hoped for. As before please put a circle round one number between 1 and 7 to show what your rating is.

Person 1 – Partner	never			sometimes			always
1 a) Can you trust, talk to frankly and share your feelings with this person?....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7
2 a) Can you lean on and turn to this person in times of difficulty?.....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7
3 a) Does he/ she give you practical help?.....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7
4 a) Can you spend time with him/ her socially?.....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7
5 a) Can you get physical comfort from him/ her?.....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7

Person 2 – A Close Relative	never			sometimes			always
1 a) Can you trust, talk to frankly and share your feelings with this person?....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7
2 a) Can you lean on and turn to this person in times of difficulty?.....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7
3 a) Does he/ she give you practical help?.....	1	2	3	4	5	6	7
b) What rating would your ideal be?.....	1	2	3	4	5	6	7

4	a) Can you spend time with him/ her socially?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
5	a) Can you get physical comfort from him/ her?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7

Person 3 – <u>A Close Friend</u> never sometimes always

1	a) Can you trust, talk to frankly and share your feelings with this person?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
2	a) Can you lean on and turn to this person in times of difficulty?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
3	a) Does he/ she give you practical help?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
4	a) Can you spend time with him/ her socially?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
5	a) Can you get physical comfort from him/ her?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7

Person 4 - _____ never sometimes always

1	a) Can you trust, talk to frankly and share your feelings with this person?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
2	a) Can you lean on and turn to this person in times of difficulty?	1	2	3	4	5	6	7
	b) What rating would your ideal be?	1	2	3	4	5	6	7
3	a) Does he/ she give you practical help?	1	2	3	4	5	6	7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

4 a) Can you spend time with him/ her socially?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

5 a) Can you get physical comfort from him/ her?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

Person 5 - _____ never sometimes always

1 a) Can you trust, talk to frankly and share your feelings with this person?.... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

2 a) Can you lean on and turn to this person in times of difficulty?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

3 a) Does he/ she give you practical help?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

4 a) Can you spend time with him/ her socially?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

5 a) Can you get physical comfort from him/ her?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

Person 6 - _____ never sometimes always

1 a) Can you trust, talk to frankly and share your feelings with this person?.... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

2 a) Can you lean on and turn to this person in times of difficulty?..... 1 2 3 4 5 6 7

b) What rating would your ideal be?..... 1 2 3 4 5 6 7

3	a) Does he/ she give you practical help?.....	1	2	3	4	5	6	7
	b) What rating would your ideal be?.....	1	2	3	4	5	6	7
4	a) Can you spend time with him/ her socially?.....	1	2	3	4	5	6	7
	b) What rating would your ideal be?.....	1	2	3	4	5	6	7
5	a) Can you get physical comfort from him/ her?.....	1	2	3	4	5	6	7
	b) What rating would your ideal be?.....	1	2	3	4	5	6	7

Appendix 7: The Social Support Questionnaire

Instructions:
This questionnaire is about your relationships towards significant people in general, e.g to your spouse, your family, friends and acquaintances, colleagues and neighbours. We want to find out how you experience and appreciate these relationships.
Below are number of statements. Beside each statement is a scale from 0 to 4,
0 means 'not at all, 4 means 'exactly right' Please circle one number next to each statement, expressing how appropriate it is.
'People' in the statements means people who are important for you.

		not at all				exactly right
1.	There are people who accept me as I am.	0	1	2	3	4
2.	It is important for my friends/ acquaintances to hear my opinion on certain things.	0	1	2	3	4
3.	Some of my friends/ acquaintances exploit my helpfulness.	0	1	2	3	4
4.	I feel that important people reject me.	0	1	2	3	4
5.	There are many situations when people ask me for practical help (e.g. to run errands, to lend them something).	0	1	2	3	4
6.	Most people I know get on better with their acquaintances than I do.	0	1	2	3	4
7.	Many of my friends/ relatives have a similar attitude to life as I have.	0	1	2	3	4
8.	I could live much more freely if I didn't always have to think about my family/ friends.	0	1	2	3	4
9.	Sometimes I feel much better after a conversation.	0	1	2	3	4
10.	Sometimes when I'm under stress tasks are taken off my hands.	0	1	2	3	4
11.	Sometimes I feel everybody has something to criticise about me.	0	1	2	3	4
12.	I have someone I also get on with sexually.	0	1	2	3	4
13.	Often I bump into acquaintances that I feel easy about having a chat with.	0	1	2	3	4

14. I wish people didn't keep nagging me all the time.	0	1	2	3	4
15. I often feel like an outsider.	0	1	2	3	4
16. I can ask my friends/ acquaintances to help me filling in forms.	0	1	2	3	4
17. With some friends/ relatives I can really be at ease.	0	1	2	3	4
18. I feel my life is restricted by friends/ relatives.	0	1	2	3	4
19. I wish others would give me more sympathy and affection.	0	1	2	3	4
20. I am often asked for advice.	0	1	2	3	4
21. I wish more security and closeness for myself.	0	1	2	3	4
22. Often I think my friends/ relatives expect too much of me.	0	1	2	3	4
23. There are people who stand by me even when I make mistakes.	0	1	2	3	4
24. My friends/ relatives don't take my feelings seriously.	0	1	2	3	4
25. There are people who always make me feel guilty.	0	1	2	3	4
26. I have a very good relationship with enough people.	0	1	2	3	4
27. There is a group of people (circle of friends) I feel part of.	0	1	2	3	4
28. My friends/relatives can't understand that I also need time to myself.	0	1	2	3	4
29. There are people who are really happy in my company.	0	1	2	3	4
30. There are people who turn to me with their personal problems.	0	1	2	3	4
31. Often I wish to stay somewhere that nobody knows me.	0	1	2	3	4
32. Important people try to control my thoughts and actions.	0	1	2	3	4

Appendix 8: The Strengths and Difficulties Questionnaire

Strengths and Difficulties Questionnaire

P5/4
FOLLOW-UP

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour **over the last month**.

Child's Name ..... Male/Female

Date of Birth .....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often argumentative with adults	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
Can stop and think things out before acting	☐	☐	☐
Can be spiteful to others	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Do you have any other comments or concerns?

Please turn over - there are a few more questions on the other side

Since coming to the clinic, are your child's problems:

Much worse	A bit worse	About the same	A bit better	Much better
☐	☐	☐	☐	☐

Has coming to the clinic been helpful in other ways, e.g. providing information or making the problems more bearable?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

Over the last month, has your child had difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

No	Yes - minor difficulties	Yes - definite difficulties	Yes - severe difficulties
☐	☐	☐	☐

If you have answered "Yes", please answer the following questions about these difficulties:

- Do the difficulties upset or distress your child?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

- Do the difficulties interfere with your child's everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE	☐	☐	☐	☐
FRIENDSHIPS	☐	☐	☐	☐
LEARNING	☐	☐	☐	☐
LEISURE ACTIVITIES	☐	☐	☐	☐

- Do the difficulties put a burden on you or the family as a whole?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

Signature ..... Date .....

Mother/Father/Other (please specify:)

Thank you very much for your help

Strengths and Difficulties Questionnaire

P4-16

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months.

Child's Name ..... Male/Female

Date of Birth .....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Do you have any other comments or concerns?

Please turn over - there are a few more questions on the other side

Overall, do you think that your child has difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

No	Yes - minor difficulties	Yes - definite difficulties	Yes - severe difficulties
☐	☐	☐	☐

If you have answered "Yes", please answer the following questions about these difficulties:

- How long have these difficulties been present?

Less than a month	1-5 months	6-12 months	Over a year
☐	☐	☐	☐

- Do the difficulties upset or distress your child?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

- Do the difficulties interfere with your child's everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE	☐	☐	☐	☐
FRIENDSHIPS	☐	☐	☐	☐
CLASSROOM LEARNING	☐	☐	☐	☐
LEISURE ACTIVITIES	☐	☐	☐	☐

- Do the difficulties put a burden on you or the family as a whole?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

Signature ..... Date .....

Mother/Father/Other (please specify:)

Thank you very much for your help

Appendix 9: Follow-up Letter

Child and Family Mental Health Service
Royal Aberdeen Children's Hospital
Westburn Road
Aberdeen AB25 2ZG
Telephone Direct Line: 01224 550139 Fax: 01224 550134

26th May 2005

Dear Parent

Title: Parental stress in relation to confiding, support and child disability

Thank you for agreeing to participate in my research study for parents whose children have attended the Raeden assessment unit. The study is aimed at investigating whether levels of social support, confiding and level of child ability are linked to levels of stress in parents.

At this point you will have returned your consent form to me and should have received a set of questionnaires to complete. I am now contacting you to let you know that my research study will soon be coming to end. I would therefore appreciate it if you could complete any remaining questionnaires and return them to me as soon as possible so that they may be included in my study.

Please do not hesitate to contact me should you have any questions. Thank you for your continued participation.

Yours sincerely

Dawn Adams
Trainee Clinical Psychologist

Dr Lynn Buntin
Clinical Psychologist

Appendix 10: Subscale ratings for the Parental Stress Index – percentage of parental scores within the normal range.

Percentages of parental scores within normal range on subscales of PSI/SF

Defensive Responding		
1st-15th percentile Low Score Range	15th–80th percentile Normal Range	85th –100th percentile High Score Range
7%	20%	73%

Parental Distress		
1st-15th percentile Low Score Range	15th–80th percentile Normal Range	85th –100th percentile High Score Range
11%	30%	59%

Parent – Child Dysfunctional Interaction		
1st-15th percentile Low Score Range	15th–80th percentile Normal Range	85th –100th percentile High Score Range
3%	36%	61%

Difficult Child		
1st-15th percentile Low Score Range	15th–80th percentile Normal Range	85th –100th percentile High Score Range
4%	32%	68%

Appendix 11: Correlational data

Correlations

Correlations

		PSI_TOTAL STRESS	SDQ_ OVERALL DISTRESS	SOS_No of Supports	SOS_TOTAL SUPPORT	SOS_TOTAL DISCREPANCY	BDI - TOTAL SCORE
PSI_TOTAL STRESS	Pearson Correlation	1	.665**	-.172	-.441**	.450**	.769**
	Sig. (2-tailed)	.	.000	.263	.003	.003	.000
	N	44	43	44	44	41	44
SDQ_OVERALL DISTRESS	Pearson Correlation	.665**	1	.032	-.377*	.396*	.445**
	Sig. (2-tailed)	.000	.	.838	.013	.011	.003
	N	43	43	43	43	40	43
SOS_No of Supports	Pearson Correlation	-.172	.032	1	.042	.054	-.235
	Sig. (2-tailed)	.263	.838	.	.786	.737	.124
	N	44	43	44	44	41	44
SOS_TOTAL SUPPORT	Pearson Correlation	-.441**	-.377*	.042	1	-.740**	-.379*
	Sig. (2-tailed)	.003	.013	.786	.	.000	.011
	N	44	43	44	44	41	44
SOS_TOTAL DISCREPANCY	Pearson Correlation	.450**	.396*	.054	-.740**	1	.249
	Sig. (2-tailed)	.003	.011	.737	.000	.	.116
	N	41	40	41	41	41	41
BDI - TOTAL SCORE	Pearson Correlation	.769**	.445**	-.235	-.379*	.249	1
	Sig. (2-tailed)	.000	.003	.124	.011	.116	.
	N	44	43	44	44	41	44
SSQ-Total Positive support	Pearson Correlation	-.481**	-.324*	.132	.556**	-.370*	-.475**
	Sig. (2-tailed)	.001	.034	.393	.000	.017	.001
	N	44	43	44	44	41	44
SSQ-Social Strain	Pearson Correlation	.733**	.357*	-.240	-.328*	.352*	.653**
	Sig. (2-tailed)	.000	.019	.116	.030	.024	.000
	N	44	43	44	44	41	44

Correlations

		SSQ-Total Positive support	SSQ-Social Strain
PSI_TOTAL STRESS	Pearson Correlation	-.481**	.733**
	Sig. (2-tailed)	.001	.000
	N	44	44
SDQ_OVERALL DISTRESS	Pearson Correlation	-.324*	.357*
	Sig. (2-tailed)	.034	.019
	N	43	43
SOS_No of Supports	Pearson Correlation	.132	-.240
	Sig. (2-tailed)	.393	.116
	N	44	44
SOS_TOTAL SUPPORT	Pearson Correlation	.556**	-.328*
	Sig. (2-tailed)	.000	.030
	N	44	44
SOS_TOTAL DISCREPANCY	Pearson Correlation	-.370*	.352*
	Sig. (2-tailed)	.017	.024
	N	41	41
BDI - TOTAL SCORE	Pearson Correlation	-.475**	.653**
	Sig. (2-tailed)	.001	.000
	N	44	44
SSQ-Total Positive support	Pearson Correlation	1	-.408**
	Sig. (2-tailed)	.	.006
	N	44	44
SSQ-Social Strain	Pearson Correlation	-.408**	1
	Sig. (2-tailed)	.006	.
	N	44	44

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).